AUTHOR INDEX

The letters SA preceding the page number designate authors of special signed articles; the letter N indicates authors mentioned in the Notes section; LE refers to authors of letters to the Editor; and B designates authors of recent books listed in the Notes section.

Names beginning with Mc are indexed before those beginning with Ma.

Aaes-Jørgensen, E., SA1, 122
Abbott, W. E., 193
Abbruzzese, A. A., 138
Adachi, K., 12
Adelson, S. F., 71
Ahrens, E. H., 103
Ahrens, E. H., Jr., 53
Ahrens, R. A., 285
Akeson, W. R., 24
Alaupovic, P., 103
Albertsen, K., 193
Albrink, M. J., 33, 257
Aleraj, Z., 19
Alexander, J. K., 199
Alexander, R. H., 196
Alfin-Slater, R. B., 201
Allcroft, R., 321
Allen, F. M., 257
Allison, J. B., 49
Alpert, E., 138, 141
Alscher, R., 125
Alsop, J., 65
Altszuler, N. A., 283
Amad, K. H. 199
Amberson, W. R., 347
Ambrose, M. E., 25
Ames, S. R., 250
Anand, B. K., 29, 187
Anderson, C. K., 43
Anderson, J., 269
Anderson, J. T., 35
Anderson, R. C., 311
Anderson, R. S., 269
Andrews, F., 147
Andrus, S. B., 210
Angeloni, F. M., 225
Angrist, A., N159
Antar, M. A., 65
Anthony, W. L., 278
Antonis, A., 35
Archer, M., 228
Arens, J. F., 113, 129
Arneil, G. C., 230
Arnott, W. M., 136
Arnow, P. M., 281
Aron, S. A., 338
Arroyave, G., N64
Artom, C., 178
Asenjo, C. F., N64
Asfour, R. Y., N63
Ashworth, C. T., 21
Aykroyd, W. R., N31
Aylward, S., 119
Ayyoub, N. I., 16, 204
Azar, G. J., 6, 65

Babineau, L. M., 244
Baertl, J. M., 267
Bagby, M. O., 1
Bailey, J. M., 77
Bailey, K. V., LE31, 105, 107
Baillie, P., 111
Baird, C. D. C., 169
Baker, B. M., 228
Baker, D. R., 138
Baker, G. D., 278
Baker, H., 289
Bakwin, H., 267
Balazs, T., 116
Balf, C. L., 230
Ball, E. G., 153, 244
Ball, J. D., 136
Ban, T., 29
Banerjee, G., 12
Barber, R. S., 305
Barnes, E. W., 239
Barnes, J., 146
Barnes, R. H., 303
Barrett, A. M., 116, 299
Bar-Shani, S., 289
Bass, B., 305
Bassett, D. R., 35, 65
Bates, H. W., 187
Bauer, A. C., 347
Baumann, C. A., 337
Beadle, G. W., 353
Beard, A. G., 295
Bearn, A. G., 143
Beaton, G. H., B352
Becker, B. J. P., 136
Becroft, T., 107
Bedding, P., 299
Beerthuis, R. K., 1
Begg, R. W., 321
Beher, M. E., 278
Beher, W. T., 278
Bender, A. E., B96
Benditt, E. P., 21
Benedict, S. R., 43
Benjamin, W., 176, 280
Benoit, F. L., 133
Benton, A. A., 189
Berditt, E. P., N287
Berg, D. N. 46
Berg, E. H., 138
Bergman, B. J., 97
Bergström, S., 1, 278
Bergström, T., 10
Berkman, P. M., 262
Berlin, C. M., 183
Bern, H. A., 51
Bernard, C., 65
Bernardis, L. L., 151
Bernstein, A., 71
Berry, V., 289
Bershon, I., 35
Berson, S. A., 283
Best, C. H., 220
Biava, C., 97
Bickel, H., 10
Biegler, R., 260
Bieri, J. G., 113, 250
Bilodeau, F., 81
Birnbaum, S. M., 313
Bitsch, V., 328
Black, J. A., 311
Black, W., 53
Blahd, W. H., 133
Blakeslee, A., B320
Blank, M. L., 1
Blaxter, K. L., 157, 315
Blaylock, L. G., 170
Bliss, C. I., 49
Blix, G., N319
Bloch, K., 57, 353
Blomstrand, R., 1
Blondheim, S. H., 6
Bloom, W. L., 6, 65, 133
Bloomfield, R. A., 216
Blount, W. P., 321
Boberg, J., 196
Boehle, E., 260
Bogdonoff, M. D., 196
Boley, S. J., 138, 141
Bonham-Carter, R. E., 311
Bonsnes, R. W., 324
Bonta, J. A., 8
Booth, M., 149
Borchgrevink, C. F., 317
Borgstrom, B., 220
Borja, C. R., 57
Borowska, Z., 281
Bothwell, T. H., 247
Bourne, G. H., B96
Bowie, M. D., 75
Bowler, R. J., 305
Box, B. M., 151
Boyer, P. D., B32
Braithwaite, D. M., 87
Braude, R., 205
Bray, C., 9
Brennan, J. C., 199
Brenner, R. R., 119
Breusch, F., 218
Brewer, T. H., B288
Brewer, W. D., 236
Bridgers, W. F., 155
Briggs, G. M., 65, 169, 289
Brinkman, G. L., 75
Bristow, J. D., 68
Broadhead, G. L., Jr., 93
Brobeck, J. R., 252, 303
Brockington, I. F., 136
Brody, S., 315
Bronemark, P. I., 225
Bronstein, S. B., 12
Brooks, C. McC., 151
Brooks, F. P., 29, 252
Brooks, R. H., 111
Brown, D. F., 35
Brown, E. B., 247
Brown, J. B., 1
Brown, S. J., 69

Bruggemann, J., 216
Brusco, O. J., 103
Buchanan, D. L., 183
Buchanan, J. M., 289
Buchwald, H., 210
Bunce, G. E., 43
Burgess, N., 10
Burton, B. R., B32, 257
Bush, I. E., 266
Butler, W. H., 146
Butt, J. H., N63
Butterfield, W. J. H., 235
Bydgeman, S., 283
Byers, S. O., 338
Byrne, W. L., 155

Caesar, H., 1
Cahill, G. F., Jr., 252
Cahn, R. D., 143, 337
Caldwell, A. B., 292
Callander, S., 232
Callaway, J. W., 303
Calvert, C. C., 122, 203
Cama, H. R., 113
Campbell, D. E., N95
Campbell, J. A., N63
Cannon, P. R., 193
Cantero, A., 308
Cantu, R. C., 283
Carey, M., 65
Carlander, B., 299
Carll, W. T., 321
Carlson, A., 196
Carlson, L. A., 317
Carnaghan, R. B. A., 321
Carpenter, C. C. J., 262
Carson, N. A. J., 9
Chahl, J. C., 335
Chaikoff, I. L., 278
Chanarin, I., 289
Chaney, M. S., B160
Chang, M.-L., 113
Chang, Y., 49
Charkey, L. W., 170
Charlton, R. W., 247
Cheu, P. S., 149
Chisholm, M. J., 1
Ch'iu, Ch'uon-lu, 257
Chiumello, G., 134
Chope, H. D., 236
Christakis, G. J., 228, 257
Christiansen, P. M., 328
Christie, G. S., 220
Chung, Hsueh-Li, 257
Civen, M., 183
Claflin, A., 143
Clarkson, T. B., 178
Clatworthy, H. W., Jr., 8
Coburn, S. P., 43
Cocks, L. V., B352
Cohen, A. M., 65, 257
Cohen, L., 337
Cohen, M. E., 271
Cohen, P., 68
Cohen, S., 86
Cohn, C., 83, 303
Coles, R. M., 136
Coll, P. L., N64
Collazos, C., N64
Combs, G. E., 305
Congdon, C. C., 185
Coniglio, J. G., 119
Connor, W. E., 257, 292
Cook, R. M., 157
Cooke, N., 239
Coon, M. J., 285
Cooperman, J. M., 289
Coots, R. H., 119
Copenhaver, J. H., Jr., 340
Coppock, C. E., 315
Corbit, J. D., 252
Cordano, A., 267
Cori, C. F., 283, 353
Cori, G., 353
Cornblath, M., 295
Cornfield, J., 228
Correll, J. W., 338
Coutinho, R., B320
Cowan, J. W., LE63
Cowlishaw, S. J., 24
Cox, G. E., 164
Cramer, F. B., 283
Crawford, M. A., 136
Cristofori, F. C., 6, 133
Crosbie, J. C., 230
Cuatrecasas, P., 80
Cushnie, G. H., 19
Czarnowska-Misztal, E., 18

Daikuhara, Y., 12
Dalton, R. G., 19
Danielsson, H., 1, 278
Datta, D. V., 196
Davidoff, F., 1
Davidson, C. S., 71
Davidson, S., 138
Davidsson, D., 43
Davies, B., 9
Davies, J. N. P., 136
Davis, D. G., 317
Davis, G. K., 305
Davis, J. T., 119
Davis, M., 204
Davison, K. L., 216
Dawber, T. R., 257, 271
Dawkins, M. J. R., 244
Dawson, D. M., 143
Dawson, R. M. C., 1
Day, A. J., 77
Day, P. L., 203
Dayton, S. 41, N222
de Albuquerque, P. F., 43
Dean, R. F. A., 267, 324
Dean, W. F., 170
DeBellis, R. H., 280
DeCarli, L. M., 71, 97
Decker, A. B., 119
deFritsch, N. M., 189
de Haas, J. C. M., 340
de la Iglesia, F., 97
Delamore, I. W., 326
Delavier-Klutchko, C., 37
Delhuneau, G., 332
DeLuca, H. F., 18, 113, 272
Dent, C. E., 9
Denton, A. E., 170
Denton, C. A., 122
Deuel, H. J., 1
Deuel, H. J., Jr., 19
Deyoe, C. W., N223
Dhopeshwarkar, G. A., 1
Diamond, L. K., 232
Dicks, M. W., B256
Diehl, J. F., 203
Diener, R. M., 138, 141
Dietschy, J. M., 218
Di Luzio, N. R., 21, 97
Dingle, J. T., 214, 240
Dinning, J. S., 203
Dittmer, J. C., 176
Ditzer, R., 1
Djordjevich, J., 337
Doisy, E. A., Jr., 125
Dougherty, T. F., 313
Doughty, J., N31
Dowdle, E. B., 247
Dowling, J. E., 113
Doyle, J. T., 35, 228
Drash, A. L., 68
Dray, S., 236
Drenick, E. J., 133
Drillen, C., 295
Drury, E. E., 41, N222
Dubach, R., 232
DuBois, E. F., 65
Ducharme, J. R., 134
Duffy, M., 212
Duncan, G. D., 41
Duncan, G. G., 6, 133
Dundee, H., 317
Dunlop, W. R., 77
Dunn, M. S., 46
DuPuy, M. P., 185
Durdle, W. M., 216
Dutcher, R. A., 46
du Vigneaud, V., 353
Dziewiatkowsky, D. D., 201

Earl, A. E., 138, 141
Eddy, W. H., 46
Eder, H. A., 14, 27, 87
Edholm, O. G., 39
Edington, G. M., 136
Edwards, H. M., Jr., 122
Eichner, A. S., B96
Eichner, J. T., 169
Ekelund, L. G., 317
Elias, J. E., 51
Elko, E. E., 21
Elovson, J., 176
Elvehjem, C. A., 46, 170, 189
Embree, N. D., 41, LE222
Emerick, R. J., 216
Ende, N., 292
Ensor, W. L., 157
Ershoff, B. E., 209
Escapini, U., 129
Estes, E. H., Jr., 196, 199
Evans, E. T. R., 19
Evans, H. M., 169
Evans, I. A., 19
Evans, J. R., 180
Evans, M. H., 127
Evans, R. J., 121
Evans, W. C., 19
Everson, G. J., 169
Exton-Smith, A. N., 236
Eyles, D. E., 24

Faber, V., 328
Fagan, V. M., 218
Fancher, J. A., 225
Falk, H. L., 321
Faragalla, F. F., 43
Farley, B., 180
Fash, F. J., 317

Feaster, J. F., 46
Feigelson, M., 183
Feigelson, P., 183
Feingold, D. S., 281
Fell, H. B., 129, 204
Ferrans, V. J., 71
Ferry, E. L., 49
Fidge, N. H., 77
Field, C. M. B., 9
Figueroa, W. G., 97
Fillios, L. C., 35
Fimognari, G. M., 218
Finkelstein, J. D., 149
Finland, M. B256
Finney, D. J., 49
Firth, J. A., 285
Fisher, R. B., 343
Fitz, R., 257
Flatt, W. P., 315
Flavin, M., 37
Fleshler, B., LE63
Fletcher, J. G., 39
Flick, D. F., 335
Flores, M., N64
Folkow, B., 29
Fomon, S. J., 230
Forbes, G. B., 230, 266
Foreman, D. R., 317
Forfar, J. O., 230
Forgacs, J., 321
Forsham, P. H., 69
Foster, D. O., 347
Foy, H., LE31
Frank, O., 289
Frankel, S., 81
Franklin, E. C., 86
Frape, D. L., 204
Fraser, R., 134
Fraser, R. I., 6, 133
Freed, A. M., 19
Freilich, M., 138
French, F. A., LE191
Freuchen, P., 65
Frey, C., 125
Friedberg, S. J., 196
Friedman, M., 338
Friedman, R. C., 276
Friedman, W. F., 311
Friis-Hansen, B., 75
Frimpter, G. W., 37
Fritz, I. B., 317
Frondel, C., 43
Fujimoto, A., 180
Fujinami, M., 179
Fulgraff, G., 340
Furman, R. H., 103

Gainsborough, H., 65
Galbraith, W. B., 292
Galván, R. R., N64
Gamble, J. L., 65
Ganapathy, S. N., 332
Ganguly, J., 204
Garcia, R. E., 311
Gardner, D. L., 324
Garner, G. B., 216
Garren, L. D., 308
Gassner, F. X., 170
Gauli, G. E., 9
Geiger, J. F., 169
Gellerman, J. L., 1
Gellhorn, A., 176, 280
Gepts, W., 93
Gerloff, E. D., 24
Gerschenson, L. E., 180
Gershoff, S. N., 43, 170, 276
Gertler, M. M., 257, 260
Gey, G. O., 77
Geyer, R. P., 225
Gidez, L. I., 14
Giordano, P., 225
Girard, A., 27
Gitler, C., 332
Glick, S. M., 283
Glomset, J. A., 14
Gluck, N., 280
Gobbel, W. G., Jr., 210
Gofman, J., 292
Goldfein, A., 283
Goldsmith, D., LE350
Goldsmith, D. P. J., 332
Goldsmith, G., 289
Goldstein, L., 340
Golfman, J. K., 252
Goodfriend, T. L., 143
Gooding, C. A., 138
Goodman, DeW. S., 14, 16
Goodman, H. M., 283
Gongora, J., 136
Gopalan, C., 146
Gordon, E. S., 69
Gore, I., 71, 179
Gormican, A., LE350
Gottlieb, D., 281
Gould, R. G., 164, 218
Gould-Hurst, P. R. S., 77
Graff, H., 91
Graff, J., 65
Graham, G. G., 267
Gran, F. C., 272
Grande, F., 35, 189, N255
Green, D. E., 33
Greenberg, D. M., 43, 155
Greengard, O., 183
Greenstein, J. P., 313
Grice, H. C., 116
Griswold, H. E., 68
Grodsky, G. M., 69
Grossowicz, N., 289
Grumbach, M. M., 134
Grundy, S. M., 53
Guerrant, N. B., 46
Guest, M. J., 164
Guggenheim, K., N63
Guha, A., 129, 204, 240
Gullixson, K. S., 283
Gurin, C. Z., 46
Gustafsson, B. E., 1, 278
Guyton, A. C., 340
György, P., 10

Hadley, G. G., 71
Hagen, P. B., 53
Hager, E. B., 185
Haggerty, D. F., 180
Haines, D. S. M., 220
Hales, C. N., 252
Haltrop, R. H., 317
Hamburg, 266
Hamilton, J. G., 278
Hamilton, M. C., 297
Hammersten, G., 43
Hamwi, G. J., SA161
Han, P. W., 151, 252
Hanahan, D. J., 176
Hanna, S., 43
Hansen, J. D. L., 75, 86
Harary, I., 180
Hargrove, G., 283
Harper, A. E., 91, 164, 189, 212, 220
Harrer, D. S., 343
Harrington, G., 305
Harris, H., 37
Harris, P. L., 41, N222
Harrison, M., 134
Hartroft, W. S., SA97
Harvey, C. C., 41
Harvey, W., 65
Hashimoto, S., 41, N222
Hass, G. M., 311
Hatch, A., 116
Hatch, F. T., 260
Hatfield, E. E., 216
Hausberger, B. C., 93
Hausberger, F. X., 93
Hause, N. L., 170
Havel, R. J., 317
Haymovitz, A., 37
Hayward, J. S., 244
Heaton, F. W., 43
Hegedüs, B., 250
Heggeness, F. W., 83
Hegsted, D. M., 49, 257
Hellerstein, E. E., 289
Henderson, J. C., 230
Henn, M. J., LE350
Henning, H. V., 347
Herbert, V., 289
Herting, D. C., 41, N222
Hetherington, A. W., 303
Hibbs, R. J., 71
Higgenbotham, A. C., 225
Hirsch, R. L., 189
Hirst, A. E., 71
Hitchcock, C. R., 138
Hoag, J. R., 19
Hochberg, M., 101
Hodges, R. E., 35, SA65, SA257
Hoebel, B. G., 303
Hoefer, J. A., 305
Hoffbauer, F. W., 189, N255
Hökfelt, B., 283
Holden, W. D., 193
Holdsworth, C. D., 212
Hollifield, G., 83
Holman, R. T., 1, 119
Holmgren, A., 317
Holtzman, J. L., 60
Hood, B., 299
Honavar, P. M., 121
Hopkins, C. Y., 1
Hopkins, D. T., 122
Horwith, H., 37
Horwitt, M. K., 41, N222
Horwitz, O., 225
Howard, J. E., 43
Howard, R. P., 103
Howell, J. McC., 113, 250
Howell, R. R., 308
Howell, W. H., 170
Hrůza, Z., 69
Huang, H. S., 16
Huang, K. C., 343
Huang, T., 9
Huber, A. M., 276

Hueper, W. C., 321
Hughes, L. E., 19
Huisman, T. H. J., 10
Hull, D., 244
Hulyalkar, R. K., 53
Humphries, S. K., 204
Hunt, R. D., 225
Hurley, L. S., 169

Ichirara, A., 12
Inoue, H., 12
Iseri, O. A., 21
Issekutz, B., 317
Isselbacher, K. J., 21, 33
Ito, K., 300
Ive, F. A., 136
Ives, M., 46

Jackson, J. G., 136
Jackson, R., 305
Jacobs, A., N160
Jacobs, P., 247
Jacobsen, S., 337
Jaffé, W., N64
James, P. M. C., 297
Jandl, J. H., B256
Janicki, B. W., 338
Janoff, A., 240
Jayalakshmi, V. T., N31
Jeans, P. C., 230
Jeans, P. J., 295
Jeffries, G. H., 196
Jelínková-Tenorová, M., 69
Jelliffe, D. B., N31, 267
Jellinek, E. M., 294
Jenson, W. K., 6, 133
Joel, C. D., 244
Johansson, B. W., 244
Johns, A. T., 1
Johnson, A., 225
Johnson, B. C., 113, 166, 174, 204, 285
Johnson, B. E., 155
Johnson, C. F., 21
Johnson, R. E., 109
Jolliffe, N., 33, 228, 292
Jones, C. M., 71, 97
Jones, D. D., 97
Jones, D. P., 71, 97
Jones, M., 269
Jones, R. J., SA225
Jones, R. S., 274
Joseph, D., 83, 303
Jonxis, J. H. P., 10
Joyner, C. R., 225
Ju, J. S., 332
Juda, J. D., 220
Judisch, J. M., 330
Jue, K. L., 311
Juergens, W. G., 51
Jungalwala, F. B., 113

Kaback, M. M., 311
Kaesberg, P., 272
Kagan, A., 257
Kakade, M. L., 121
Kalter, H., 169
Kannel, W. B., 228, 257, 260, 271
Kaplan, N. O., 143, 337
Kappes, F., 10
Karam, J. H., 69
Karrer, 204
Kasatochkin, V. I., 332
Kassirer, J. P., 262
Katsura, E., B128
Katz, L. N., 257
Kaufmann, H. P., 1
Kaufmann, N. A., 6
Kaunitz, H., 109
Kekwick, A., 65, 133
Kellaway, C. H., N127
Kellner, A., 338
Kelser, G. A., 199
Kendall, F. E., 189
Kennedy, G. C., 252, 303
Kennedy, G. D., 151
Kenten, R. H., 19
Keys, A., 6, 33, 35, 71, 164, 269
Kimm, J., 187, 303
King, A., 239
King, C. G., B96
King, J. T., 116
Kingsbury, J. M., 19
Kinsky, S. C., 281
Kipnis, D. M., 283
Kirch, S. A., 35
Kleiber, M., 315
Klemina, E. A., 332
Knight, P. L., 125
Knipprath, W. G., 1
Knisely, M. H., 220, 225
Knobil, E., 283
Knobl, G. M., Jr., 25
Knox, W. E., 183
Kohman, E. F., 46
Kon, S. K., 250
Kondi, A., N31
Korn, E. D., 1
Kornacker, M. S., 153, 347
Kosenko, A. F., 29
Kotin, P., 321
Kowarski, S., 149
Kratzing, C. C., 335
Krauss, R. M., 91
Kraybill, H. F., 321
Krebs, H. A., 308
Krehl, W. A., 35, 161
Kreslov, V. V., 214
Kretchmar, A. L., 185
Krieger, H., 193
Krishnamurthy, S., 113
Kruse, F., 10
Kruse H. D., 43
Kuemmel, D. F., 1
Kuhn, E., 69
Kujalová, V., 69
Kumar, S., 289
Kummerow, F. A., 147
Kung, E., 278
Kuo, P. T., 35, 65
Kuramitsu, H., 180
Kurland, L. T., 321
Kurotsu, T., 29
Zuzuya, T., 93
Kwan, C. K., N287
Kyobe, J., 269

Lacqueur, G. L., 321
Ladd, A. T., 338
Lakshmanan, M. R., 113
Lamb, F. C., 46
Lambert, E. F., 151
Lambert, G. F., 285
Lamerton, L. F., 343
Lampen, J. O., 281
Lancaster, M. C., 321
Lands, W. E. M., 119
Lane, K., 149
Lang, J. M., 220, 335
Lang, K., B96
Lardy, H. A., 347
Larrabee, A. R., 289
Laskin, A. I., 281
Laszlo, J., 283
Latham, M., B192
Laurell, C. B., 220
Lawrason, F. D., 138, 141
Lawrenz, D. R., 262
Lazzarini-Robertson, A., 77
Leahy, W. V. C., 338
Leake, C. D., B256
Leduc, E. H., 272
Lee, M. L., 278
Lees, M. H., 68
Lehninger, A. L., 12
Leonard, M. I., 46
Lepkovsky, S., 212
LeVeen, H., 225
Leveille, G. A., 209
Levey, S., SA193
Levi, A., 204
Levin, E. Y., 295
Levine, H. D., 71
Levine, L., 143, 337
Lewis, L. A., 283
Li, Wen-Ching, 257
Libby, D. A., 101
Lieber, C. S., 71, 97
Liener, I. E., 121
Light, R. F., 125
Lightwood, R., 230
Lightwood, R. C., 311
Lima, I. H., 24
Lin, Shan-Yen, 257
Lindholmer, B., 138
Lindstedt, S., 278
Lindström, J., 225
Lipmann, F., 204
Lipmann, F. A., 353
Lister, R. E., 141
Lloyd, J. K., 257
Lofland, H. B., Jr., 178
Long, C. N. H., 252, 303
Longenecker, J. B., 170
Losen, A. Y., 97
Love, F., 9
Lowe, K. G., 230
Lowenstein, J. M., 153, 348
Loy, H. W., 101
Luck, J. M., B32
Lucy, J. A., 204
Luhby, A. L., 289
Lundberg, W. O., 1
Lundquist, F., 71
Lyman, C. M., 170
Lyman, C. P., 244
Lynen, F., 33, 57
Lyon, E. S., 43

McArthur, W. H., 185
McCall, J. T., 305
McCance, R. A., 39, 43
McCarl, R., 180
McCarrison, R., 43
McClellan, W. S., 65

McClusky, R. T., 240
McCollum, E. V., 43, 204
McCormick, D. B., 81
McCurdy, P. R., 232
McDonald, B. E., 166
McDonald, I. R. C., 1
McDonald, L., 9
McDonald, R. M., 317
McGandy, R. B., 257
McGreal, D. A., 230
McHenry, E. W., B352
McIntosh, H. D., 199
McIntyre, N., 212
McKay, S., 107
McKusick, V. A., 9
McLaren, D. S., 129
McLaughlin, S. M., 267
McMahon, F. G., 138, 141
McMillen, W., B96
McNally, A., 210
McNamara, P. M., 271
McNickle, T. F., 338
McPherson, J. C., 338

Mabrouk, A. F., 1
MacDonald, M. K., 43
Macdonald, I., 87
MacDonald, R. A., 274
MacIntyre, I., 43
MacKay, E. M., 303
Macmillan, D. C., 299
MacWilliams, K. M., 267
Mahadevan, S., 16, 204
Madhavan, T. V., 146
Madsen, N., 272
Magendantz, H., 199
Maickel, R. P., 283
Main, F. B., 210
Malkin, M. F., 69
Mallory, T. B., 71, 97
Mailov, S., 21
Mameesh, M. S., 174
Man, E. B., 257
Manatt, M. R., 272
Mancini, M., 269
Manis, J. G., 247
Mankel, G., 1
Mann, G. V., 164, 210, 269, 272
Marberg, C. M., 19
Marble, A., 257
Marine, D. N., 151
Marion, J. E., 122
Markert, C. L., 143
Marks, P., 280
Marriott, W. M., 295
Martin, R. L., 133
Masoro, E. J., 317
Matoth, Y., 289
Matschiner, J. T., 125
Matsumoto, Y., 35
Matthews, L. W., 225
Maxwell, G. M., 230
Mayer, J., 91, 111, 187, 212, 266, 303, 330
Mayer, R. M., 57
Mbaya, V., N31
Mead, J. F., 1, SA33, 119, 180
Mehrizi, A., 68
Mehta, S. H., N31
Meiklejohn, A. P., 138
Melichar, V., 269
Mellanby, E., 129
Melinkoff, S., 91
Melnick, D., 101
Mendel, L. B., 43, 49
Mendelson, J., 97
Menge, H., 122
Meredith, H. V., 330
Merkl, L., 119
Merry, J., 294
Metta, V. C., 174, 285
Meyer, C. E., 225
Mickelsen, O., 65, 321
Mider, B. G., 111
Miettinen, T. A., 53
Mikolajczak, K. L., 1
Millar, F. K., 111
Miller, 27
Miller, C., 262
Miller, D. F., N223
Miller, E. C., 122
Miller, G. E., 161
Miller, G. H., 43
Miller, L., 87
Miller, L. D., 157
Miller, M. E., 225
Miller, W. S., 250
Millman, N., 116
Mills, C. F., 305
Mishkel, M. A., 229
Mitchell, H. H., 49
Mitchell, K. G., 305
Mohr, F. L., 138, 141
Mohrhauer, J., 119
Mongelli, J., 86
Monroe, K. E., 71
Monroe, R. A., 203
Monsen, H., 174
Montgomery, R. D., 68
Montoye, H. J., N95
Monty, K. J., 174
Mookerjea, S., 220
Moore, C. A., 43
Moore, C. V., 232
Moore, S., 53, 170, N223
Moore, T., 240
Moore, T. C., 8
Moore, W. T., 338
Morales, E., 267
Morgan, A. F., 170
Morris, B., 220
Morse, D., B96
Morgenstern, L., 138
Morton, R. A., 129, 250
Mosinger, B., 69
Muhrer, M. E., 216
Mukai, T., 43
Munkundan, R., N31
Munro, A. J., 280
Mushkacheva, G. S., 214
Myers, M. L., 257
Mynatt, E. I., 313

Naftalin, J. M., 19
Nagamine, S., 239
Naiman, J. L., 330
Naimark, A., 317
Nance, W. E., 143
Narayan, K. A., 147
Nassett, E. S., 60, 332
Nath, N., 164
Neilands, J. B., 46
Nejad, A. M., 77
Nelson, D. L., 216
Neptune, E. M., Jr., 317
Nelson, M. M., 169
Nervi, A. M., 119
Nesheim, M. C., 122
Neuhaus, F. C., 155
Neumair, H., 71
Neumann, A. L., 216
Newman, A. P., 305
Newman, M., 236
Nicolaysen, R., 271
Nordlie, R. C., 347
Noren, G. R., 311
Norman, A., 278
Norman, A. W., 18, 272
Normell, L., 196
Norris, T., 136
Novak, M., 269
Novak, P., 269
Nugteren, D. H., 1
Nyman, E., 138

Oba, T. S., 43
O'Brien, R. D., 81
Odell, G. B., 295
O'Hara, P. J., 305
Ohlson, M. A., 65
Ohly, B., 347
Oka, M., N159
Olesen, E. S., 65
Oliver, M. F., 299
Olmsted, R. W., 68
Olson, E. B., 272
Olson, J. A., 13
Olson, O. E., 216
Oomen, H. A., 129
Opert, S., 116
Opie, L. H., 180
Oratz, M., 86
Orent, E. R., 43
Oriente, P., 338
Orlić, N. O., 19
Orten, A. U., 332
Osborne, T. B., 49
Oser, B. L., B96, 101
Osgood, E. E., 121
Oski, F. A., 330
Osman, A. A., 10
Otey, M. C., 313
Owen, E. E., 340
Owne, R. D., 305

Packett, L. V., Jr., 43
Paetku, V., 347
Page, E., 244
Page, I. H., 283
Pallard, A. E., 46
Panish, J. F., 138
Park, W. W., 230
Parson, W., 83
Parsons, D. S., 343
Passmore, R., 138, 239
Pasternak, C. A., 204
Patek, A. J., 189
Patton, A. R., 170
Patwardhan, V. N., N31
Paulson, G. D., 337
Paustian, F. F., LE350
Pavalatos, F. C., 69
Pawan, G. L. S., 65, 133
Pawar, S. S., 338
Pearce, M. L., 41, N222
Pechet, G. S., 274

Pegus, L., 109
Pelick, N., 225
Pennington, A. W., 65
Penrose, L. S., 37
Perman, E., 239
Perris, A. D., 343
Perry, M. B., 53
Persson, B. E. H., 266
Petering, H. G., SA321
Pette, D., 347
Phillips, W. E. J., 216
Piemme, T. E., 71
Pilkington, L. A., 340
Pilkington, T. R. E., 65
Pirie, A., 204
Pitt, G. A. J., 113, 250
Pittman, J. G., 68
Pitts, R. F., 340
Pizer, L. I., 155
Plack, P. A., 250
Pletscher, A., 71
Pollack, A. D., 9
Pollard, C. J., 250
Pool, R., 212
Pope, A. L., 337
Pope, J. L., 338
Popjak, G., 218
Porta, E. A., SA97
Pratt, A. W., 111
Pratt, G. B., 46
Pratt, G. V., 332
Pressley, A., 46
Prien, E. L., 43
Pritchard, J. A., 232
Privett, O. S., 1
Prockop, D. J., 324
Proger, S. H., 199
Puh Lee, Y. C., 116
Putney, F. K., 111
Pugh, D. L., 216
Pye, O. F., B192

Quaade, F., 65
Querido, A., 151
Quick, A. J., 125

Rackis, J. J., 121
Raf, L., 138
Rafaelsen, O. J., 235
Rahm, J. J., 1
Rama Rao, P. B., 174
Ramsey, M., 236
Ranson, S. W., 303
Rappaport, A. M., 220
Raymond, W. F., 24
Rauda, V., 346
Read, M. S., SA161
Reboucas, G., 21
Reddy, B. S., 216
Reeves, P. G., 43
Regan, T. J., 225
Reichlin, S., 151, 276
Reid, M. E., 169
Reilly, R. W., 343
Reiser, S., 272
Reissmann, K. R., 300
Remenchik, A. P., 262
Remy, C. N., 335
Restrepo, A., 289
Revotski, N., 257
Reynolds, 97
Reynolds, R. W., 187, 303
Richardson, L., 283
Richardson, L. R., 170
Ridley, P. T., 29, 252
Ridout, J. H., 220
Rigas, D. A., 121
Rinzler, S. H., 228
Ritchie, H. D., 305
Rittenberg, D., 176
Rivera, E. M., 51
Robbins, P. W., 204
Roberts, E., 81
Roberts, J. C., 244
Roberts, W. C., 311
Roberts, W. K., 216
Robie, D. M., 313
Robinson, R. R., 340
Rodahl, K., 317
Rodbell, M., 280
Rødbro, P., 328
Roddy, J., 65
Rodwell, V. W., 218
Roe, F. J. C., 321
Roels, O. A., 16, SA129, 204, 240
Rogers, W. E., 113
Roheim, P. S., 14, 27, 87
Roisen, F., 347
Root, A., 134
Röpsch, A., 53
Rose, A., 225
Rose, W. C., 285, 353
Rosenblum, D., 41, N222
Rosenfeld, B., 220, 335
Rosenoer, V. M., 65
Ross, G. S., 65
Ross, J. D., 232
Ross, M. L., B160
Roth, J., 283
Rother, M. L., 247
Rothman, D., 289
Rothschild, M. A., 86
Rowe, R. D., 311
Rowell, J. G., 305
Rowell, L. B., 317
Rubenstein, H., 29
Rudman, D., 69
Rüegg, R., 250
Rutstein, D. D., 77

Sabour, M. S., 43
Sabry, Z. I., N63
Sackler, A. M., 116
Saito, T., 257
Salaman, M. H., 321
Sallach, H. J., 155
Samuelsson, B., 1
Sanahuja, J. C., 91
Sanchez, A., N287
Sand, D., 1
Sandstead, H. H., 269
Sasaki, H., 225
Sauberlich, H. E., 43, 209
Scanu, A., 338
Schachter, D., 149, 247
Schaffner, F., 225
Schantz, E. J., N127
Scheig, R. L., 21
Schenker, H., 247
Schertel, M. E., 101
Schimke, R. N., 9
Schimke, R. T., 183
Schlenk, H., 1
Schless, G. L., 6
Schlosser, E., 281
Schoenheimer, R., 176, 218
Schrade, W., 260
Schrader, W. H., 138
Schreiber, S. S., 86
Schuberth, O., 225
Schurr, P. E., 225
Schwartz, W. B., 262
Scott, H. M., 170
Scott, H. W., Jr., 210
Scott, M. L., 203
Scott, T. W., 1
Seedman, D. A., 65
Seelig, M. S., 43
Segal, S., 80
Segall, M. M., 244
Seide, M. J., 199
Seidel, J. C., 164
Seiker, H. O., 199
Sell, J. L., 216
Sellers, E. A., 335
Sen, N., 1
Senior, J. R., 33
Seo, J., 216
Sereni, F., 134
Seshadri Sastry, P., 204
Sétáló, G., 93, 151
Seubert, W., 347
Shaffer, R. D., 269
Shalhoub, R., 340
Shank, R. E., 161
Shaper, A. G., 136, 269
Shapiro, B., 220
Sharman, I. M., 240
Shaw, J. C., 157
Shearman, D. J. C., 326
Sheehy, T. W., 289
Shellenberger, J. A., N223
Shih, C.-V., 121
Shimazono, N., B128
Shimkin, M. B., 321
Shipp, J. C., 180
Shirahama, T., 179
Shirley, R. L., 305
Shishova, O. A., 332
Shoffstall, D. H., 138, 141
Shorland, F. B., 1
Shrago, E., 347
Shuster, F., 138
Silverman, M., B256
Silverstone, H., 321
Sime, J. T., 203
Simms, H. S., 46
Simpson, J. D., 299
Simpson, M. J., 183
Singhal, R. L., 308
Siperstein, M. D., 164, 218, 278
Sipple, H. L., SA353
Sjövall, J., 278
Slater, E. C., 180
Slaton, W. H., Jr., 119
Smith, C. A., 295
Smith, C. R., Jr., 1
Smith, E. C., 77
Smith, G. S., 216
Smith, H. L., 199
Smith, J. A., 272
Smith, M., 212

Smith, M. H., Jr., 212
Smith, P., Jr., 25
Smith, P. A., 10
Smith, R. E., 170, 244
Smith, S. C., 77
Smithies, O., 143
Smuckler, E. A., 21
Snell, E. E., 81
Sobotka, H., 289
Sogandares, L., N64
Spackman, D. H., N223
Sparber, S. B., 116
Spatz, M., 321
Sperry, W. M., 57
Spitzer, J. A., 196
Spitzer, J. J., 196
Spivey, H. E., 212
Spolter, P., 91
Spritz, N., 103
Sriwastava, S. K., 308
Stahmann, M. A., 24
Stamler, J., 257, B320
Stanger, R. L., 116
Stanton, B. R., 236
Stare, F. J., 210, 225, 257
Staub, H., 71
Stearns, G., 230
Steel, G. G., 343
Steenbock, H., 272
Stefanini, M., 125
Steiert, B., 317
Stein, A. A., 97
Stein, H. D., B32
Stein, W. H., 53, 170, N223
Stein, Y., 220
Steinberg, D., 183
Steinbock, H. L., 183
Steinborner, R., 77
Steiner, D. F., 346
Stellar, E., 91, 252
Stephenson, S. E., Jr., 210
Sterky, G. C. G., 266
Stern, B. K., 343
Stern, D. N., 283
Stetten, D., 176
Stevenson, J. A. F., 151
Stillman, E., 257
Stockdale, F. E., 51
Stockman, M. A., 116
Stockman, S., 19
Stoffel, W., 1
Stone, D. B., 257, 292
Stonington, O. G., 43
Strong, F. M., 46
Strout, R. G., 77
Stuart, H. C., 330
Studer, A., 250
Stuhlfauth, K., 71
Stults, H. B., 330
Stumpf, B., 347
Stumpl, M., 311
Subba Rao, K., 204
Sudduth, H. C., 317
Sudsaneh, S., 303
Sullivan, L. W., 289
Summerskill, W. H. J., 71
Sundaresan, P. R., 113, 204
Suttie, J. W., 346
Suttle, N. F., 305
Suzuki, M., 97
Suzuki, S., 239
Swaminathan, S. P., 289
Sweeney, E. W., 183
Swendseid, M. E., 133
Switzer, S., 27
Szmelcman, S., N63

Takeda, M., 29
Takeda, Y., 12
Talbot, N. B., 276
Taliaferro, W. H., N287
Talson, P. J., 262
Tanioka, H., 12
Tannenbaum, A., 321
Tannous, R. I., LE63
Tappel, A. L., 147, 203
Tarver, H., 183
Tata, J. R., 149
Tatum, E. L., 353
Taussky, H. H., 324
Taylor, C. B., 311
Taylor, C. M., B192
Taylor, C. R., 244
Teitelbaum, P., 303
Tepperman, H. M., 166
Tepperman, J., 166, 252, 303
Tezuka, T., 239
Thomas, A. J., 19
Thomas, D. H. H., 37
Thomas, J. W., 216
Thomas, K., 49
Thomas, L., 240
Thomas, L. N., 230
Thomas, W. C., Jr., 43
Thomasson, H. J., 33
Thompson, J. A., 8
Thompson, J. N., 113, 250
Thompson, S. W., 174, 225
Thorp, J. M., 299
Tidwell, H. C., 338
Tiews, J., 216
Tilley, J. M. A., 24
Tinoco, J., 335
Tisdall, F. F., 65
Toal, J. N., 111
Tolstoi, E., 65
Tompkins, G. M., 308
Tompsett, S. L., 230
Topper, Y. J., 51
Tothill, P., 299
Townsend, J. M., 305
Treadwell, C. R., 57, 335
Trotta, G., 65
Trout, M., 129, 204, 240
Trueheart, R. E., 311
Tucker, J., 252
Tufts, E. V., 43
Tuma, M., 43
Tunkl, B., 19
Turner, D., B96
Turner, D. S., 212
Tuttle, S. C., 133
Tygstrup, N., 71

Uchida, T., 81
Uhr, J. W., 240
Undenfriend, S., 324

Vaccari, A., 134
Vahouny, G. V., 57, 335
Vakil, U., 240
Van Bekkum, D. W., 151
van Deenen, L. L. M., 1
Van Dorp, D. A., 1, 113, 129
Van Putten, L. M., 151
van Rede, C., B352
Van Slyke, D. D., 340
Velez, H., 289
Varandani, P. T., 204
Varco, R. L., 210
Varick, M. G., 46
Vaughn, M., 183
Vela, A. R., 225
Verdino, B., 1
Vesell, E. S., 143
Visscher, M. B., 116
Vitale, J. J., SA289
Volkert, N. E., 169
Volwiler, W., 71, 97
Vonkeman, H., 1
Vermeulen, C. W., 43
Visek, W. J., 60

Wada, H., 81
Wada, S., 257
Wadstrom, L. B., 193
Wagner, E. D., N287
Wagner, J. R., 46
Wainman, F. W., 315
Wakil, S. J., 33
Walburg, H. E., Jr., 313
Wald, G., 113, 129, 250
Walker, S. E., 39
Wallace, H. D., 305
Wallach, D. F. H., 185
Walsh, D. A., 155
Walter, P., 347
Ward, C. M., 250
Ward, P. F. V., 1
Warkany, J., 169
Warner, A., B96
Watchorn, E., 43
Waterlow, J. C., 24
Watkin, D. M., 225
Watten, R. H., 133
Webb, M., 57
Weber, G., 12, 308
Weber, M. M., 281
Webster, H. D., 225
Weenink, R. O., 1
Weersing, S., 57
Weinberg, H., 212
Weissmann, G., 240
Wells, A. F., 209
Wells, I. C., 335
Weltman, A. S., 116
Wenzel, B. J., 330
Wernick, R., 65
Wertheimer, E., 283
Westlund, K., 271
Weswig, P. H., 19
Weygand, F., 53
Whalqvist, M. L., 77
Wheeler, P., 170
White, J., 111
White, P. D., 257, 260
Whitehead, R. G., 324
Whitehouse, M. W., 278
Whiting, M. G., 321
Whyte, H. M., 199
Wiberg, G. S., 116
Widdowson, E. M., 39

Wiech, N. L., 278
Wilder, V., LE350
Wiles, H. O., 19
Wilgus, H. S., 170
Williams, A. V., 225
Williams, A. W., 136
Williams, P. G., 225
Williams, R. H., 346
Williams, R. L., B256
Willius F. A., 199
Willoughby, E. O., 262
Wilson, J. E., Jr., 285
Wilson, J. W., 272
Wilson, T. H., 343
Wilson, W. C., 41
Winberg, J., 10
Winitz, M., 65, 313
Winkler, K., 71
Winter, G. B., 297
Winterstein, A., 250
Wirklund, P. E., 193
Wiseman, G., 343
Wogan, G. N., B32
Wolf, G., 113, 204
Wolfe, S. J., 71
Wolff, I. A., 1
Woodward, G. E., 283
Wool, I. G., 280
Wooles, W. R., 21
Woolridge, R. L., N287
Womack, M., 285
Wostmann, B. L., 278
Wostmann, B. S., 125
Wretlind, K. A., 225
Wright, H. V., 169
Wrightsman, F. J., 21

Yagashita, K., 113
Yalow, R. S., 283
Yamakawa, K., 239
Yen, H. C. Y., 116
Ylppö, A., 295
You, R. W., 335
Young, T. K., 151
Young, W., 271
Yoshida, A., 220
Yoshitoshi, Y., 196
Younger, R. K., 210
Younoszai, M. K., 230
Yudkin, J., 65, 257

Zachman, R. D., 113
Zaki, F. G., 189, N255
Zalkin, H., 203
Zalusky, R., 289
Zamir, R., 289
Zebrowski, E. J., 346
Zevilling, E., 337
Zile, M., 113
Zilversmit, D. V., 77
Zuck, T., 46
Zull, J. E., 18
Zwilling, E., 143

SUBJECT INDEX

The letters SA preceding the page number designate a special signed article; N refers to articles or letters in the Notes section.

Abortion
in pantothenate deficient guinea pigs, 169
Absorption
amino acids, factors affecting, 332
bile acids, effect of pectin on, 209
calcium
effect of actinomycin D on, 18
effect of iron on, 247
cholesterol, effect of pectin on, 209
fat
effect of Triton on, 338
mechanism of, SA33
fatty acid isomers, SA1
folates, SA289
iron salts, 232, 247
isolation of intestinal epithelial cells, 343
magnesium, effect of dietary phosphate on, 43
minerals, from tablets, 101
vitamin A, mechanism, 16, SA129
vitamin B_{12}, in iron deficiency anemia, 326
vitamins, from tablets, 101
Acetate
incorporation into cholesterol precursors, effect of dietary cholesterol on, 218
incorporation into lipids, in dispersed liver cells, 12
metabolism, in ruminants, 157
Achlorhydria
in iron deficiency anemia, 326
Acidification
urine, in nutritional rickets, 10
Acidity
effect on iron absorption, 247
gastric juice, after hypothalamic lesions, 29
Acidosis
in cholera, 262
in nutritional rickets, 10
renal control of, 340
Adipose
tissue
activity of citrate cleavage enzyme in, 153
conversion of stearate to oleate in, effect of fasting on, 176
deposition during ethylchlorophenoxyisobutyrate therapy, 299
mobilization of lipid, nervous system centers for, 283
release of free fatty acids from, effect of hormones on, 69
sensitivity to insulin, in hypothalamic obesity, 252
Adrenal
cortex, fascicular zone cells, nuclear volume, in hypothalamic obesity, 93
corticosterone, blood levels in single versus community housed rats, 116
cortisol, effect on enzymes of gluconeogenesis, 346
hemorrhage, in pantothenate deficient guinea pigs, 169
histological changes after feeding oxidized fats, 109
hormones
as inducers for synthesis of gluconeogenic enzymes, 308
effect on synthesis of tryptophan pyrrolase, 183
relation to plasma free fatty acid level, 283
weight, in single versus community housed rats, 116
Aflatoxin
carcinogenic activity of, SA321
toxicity, relation to dietary protein, 146
Age
diabetes in elderly persons, SA257
differences, in release of FFA from adipose tissue, 69
old
caloric intake in, 236
incidence of stroke in, 271
nutritional needs in, N319
relation to blood cholesterol levels, 269
relation to galactokinase activity of tissues, 80
Albumin
formation of complexes with lipids, 147
plasma levels, after alcohol ingestion, 21
serum, use in isolation of intestinal epithelial cells, 343
synthesis, effect of gammaglobulins on, 86
Alcohol
hepatic injury from, SA97
ingestion
effect of small amounts on the abstinent alcoholic, 294
effect on liver lipids and protein synthesis, 21
metabolism, effect of exercise on, 239
Alcoholism
heart and liver disease in, 71
megaloblastic anemia in, role of folacin in, SA289
Alpha-Amino-Isobutyric Acid
uptake by diaphragm muscle, in vitamin E deficiency, 203
Amino Acids
absorption, factors affecting, 332
arginine, blood level, on valine deficient diet, 170
aspartic acid, source of phosphoenolpyruvate for gluconeogenesis, 346
composition, of leaf proteins, 24
cystine, deficiency, cholesterol metabolism in, 164
determination
by gas-liquid chromatography, 53
in fish products, 25
digest, for intravenous use, effect on nitrogen balance after surgery, SA193
excretion, in nutritional rickets, 10
glutamic acid
absorption rate of, 332
use in renal control of acidosis, 340
glycine, use in renal control of acidosis, 340
hydroxyproline
excretion
in infants given growth hormone, 134
measure of nutritional status, 324
histidine, blood level, on valine deficient diet, 170
homocystine, excretion in urine, clinical and pathologic, 9
in liver, effect of starvation on, 308
isoleucine, deficiency in leaf proteins, 24
leucine, dietary, effect on hyperphagia, 91
lysine
absorption, effect of other amino acids on, 332

deficiency in leaf proteins, 24
dietary deficiency, effect on plasma lysine level, 170
role in complexing of proteins with lipid, 147
metabolism, role of folate coenzymes in, SA289
methionine
deficiency in leaf proteins, 24
in sorghum hybrids, N223
mixtures, resembling casein, rat growth on, 285
plasma levels, index of dietary amino acid intake, 170
proline, use in renal control of acidosis, 340
requirements, for the chick, 170
serine, synthesis in mouse brain, 155
tryptophan
absorption rate of, 332
effect on stability of tryptophan pyrrolase, 183
threonine, absorption rate of, 332
uptake by diaphragm muscle, effect of vitamin E deficiency on, 203
valine, dietary deficiency, effect on plasma valine level, 170

Ammonia
in urine
in nutritional rickets, 10
source of, 340

Anemia
effectiveness of various iron compounds in treatment of, 232
in children, after gastrectomy, 8
in riboflavin deficient baboons, N31
intravenous fat feeding, SA225
iron deficiency
effect on growth of infants, 330
gastric function and structure in, 326
leucocyte oxygen consumption in, N160
megaloblastic, in sprue, role of folacin in, SA289
pernicious, auto-immune responses in, 326
protein starvation, 300

Anserine
effect on methylhistidine excretion, N63

Antibiotics
actinomycin
effect on oleate synthesis in isolated fat cells, 280
effect on vitamin D induced calcium transport, 18
chlortetracycline, effect on urea hydrolysis in intestinal tract, 60
filipin, microbial sensitivity to, 281
puromycin
effect on lipoprotein synthesis, 87
effect on oleate synthesis in isolated fat cells, 280

Antibodies
to parietal cells and intrinsic factor, in iron deficiency anemia, 326

Antimetabolites
2-deoxyglucose, effect on plasma free fatty acid level, 283

Antioxidants
effect on erythrocyte hemolysis test, N191

Aorta
atherosclerotic lesions
in gastrectomized monkeys, 210
in irradiated pigeons, 178
epithelial changes, in scorbutic guinea pigs, 179
oxygen consumption of, in experimental atherosclerosis, 214
stenosis, in idiopathic hypercalcemia, 311
tissue culture of intimal cells, lipid accumulation in, 77

Appetite
regulation, by osmotic effect, 212

Arteries
enzyme changes in, in experimental hypertension, N159
tissue culture cells, accumulation of cholesterol in, 77

Ascorbic Acid
deficiency, aorta epithelium changes in, 179
effect on iron absorption, 247
intake, of elderly women, 236

Assay
amino acids, by ion-exchange, effect of high carbohydrate levels on, 25
biological, of vitamins in tablets, 101
biological value of proteins, 49
gas-liquid chromatography, developments in, 53
growth hormone, 276
microbiological, of folates, SA289

Atherosclerosis
experimental
in the pigeon, effect of irradiation on, 178
tissue respiration changes in, 214
in alcoholism, 71
in diabetes, SA257
in gastrectomized monkeys, 210
relation to cerebral thrombosis, 271

Availability
vitamins, in tablet form, 101

Baboons
riboflavin deficient, bone marrow changes and protein metabolism in, N31

Bacteria
intestinal
oxidation of cholesterol by, 278
relation to radiation sensitivity, 313

Basal Metabolic Rate
in cattle, 315

Batyl Alcohol
effect on fern poisoning, 19

Beans
navy, toxic factors in, 121

Bicarbonate
blood levels, in cholera, 262

Bile Acids
absorption, effect of pectin on, 209
determination, by gas-liquid chromatography, 53
effect on carotene absorption, SA129
effect on cholesterol esterase, 57
effect on post-heparin lipolytic activity, 196
excretion, in germfree rats, 278
inhibition of cholesterol synthesis by, 218

Biological Activity
retinoic acid metabolite in liver, 113

Biological Value
inter-esterified fats, 201
leaf proteins, 24
oxidized fats, 109
proteins, methods for estimating, 49

Blood
serum, effect on lipid release from tissue culture cells, 77
vessels, histological changes, in homocystinuria, 9

Body Composition
changes, during fasting versus ketogenic diet, 133
in kwashiorkor, 75
relation to food intake patterns, 83

Bone
changes, in fern poisoning, in cattle, 19

chick, in tissue culture, effect of vitamin A on, 204
femur, growth in weanling rats with hypothalamic lesions, 151
marrow
changes in riboflavin deficiency, N31
effect of transfusion on nitrogen balance after irradiation, 185

Book Notices
Alcoholic Beverages in Clinical Medicine. C. D. Leake and M. Silverman. Year Book Medical Publishers. 256.
Annual Review of Biochemistry, Volume 34. P. D. Boyer and J. M. Luck, Editors. Annual Reviews, Inc. 32.
Ascorbinsäure. K. Lang, Editor. Dietrich Steinkopff Verlag. 96.
Bugs or People? W. McMillen. Meredith Press. 96.
Chemicals Used in Food Processing. National Academy of Sciences—National Research Council. 160.
Dictionary of Nutrition and Food Technology, Second Edition. A. E. Bender. Butterworth, Inc. 96.
Erythropoiesis. M. Finland and J. H. Jandl. *Medicine.* 256.
Foundations of Nutrition, Sixth Edition. C. M. Taylor and O. F. Pye. The Macmillan Company. 192.
Handbook of Diet Therapy, Fourth Edition. D. Turner. University of Chicago Press. 96.
Hawk's Physiological Chemistry, Fourteenth Edition. B. L. Oser, Editor. McGraw-Hill. 96.
Human Nutrition in Tropical Africa. M. C. Latham. FAO. 192.
Laboratory Handbook for Oil and Fat Analysts. L. V. Cocks and C. van Rede. Academic Press, Inc. 352.
Metabolic Toxemia of Late Pregnancy: A Disease of Malnutrition. T. H. Brewer. Charles C Thomas. 288.
Mycotoxins in Foodstuffs. G. N. Wogan, Editor. M.I.T. Press. 32.
Nocoes de Fisiologia da Nutricao. R. Coutinho. Empresa Grafica O Cruziero S. A. 320.
Nutrition, Seventh Edition. M. S. Chaney and M. L. Ross. Houghton Mifflin Company. 160.
Nutrition: A Comprehensive Treatise. Volume III, Nutritional Status: Assessment and Application. G. H. Beaton and E. W. McHenry, Editors. Academic Press, Inc. 352.
Planning for the Needs of Children in Developing Countries. H. D. Stein, Editor. UNICEF. 32.
Pre-School Child Malnutrition: Primary Deterrent to Human Progress. National Academy of Sciences—National Research Council. 224.
Radioisotope Techniques in the Study of Protein Metabolism. International Atomic Energy Agency. 128.
Review of Japanese Literature on Beriberi and Thiamine. N. Shimazono and E. Katsura, Editors. Vitamin B Research Committee of Japan. 128.
The Healthy Life: How Diet and Exercise Affect Your Heart and Vigor. R. L. Williams, Editor. Time Incorporated. 256.
The Heinz Handbook of Nutrition, Second Edition. B. R. Burton. McGraw-Hill. 32.
The Impact of Science on Technology. A. W. Warner, D. Morse, and A. S. Eichner, Editors. Columbia University Press. 96.
The Nutrient Requirements of Farm Livestock, Number 2: Ruminants. Summaries of Estimated Requirements. Agricultural Research Council. 128.
The Nutrient Requirements of Farm Livestock. Number 2: Ruminants. Technical Reviews and Summaries. Agricultural Research Council. 128.
Vitamin E Content of Foods and Feeds for Human and Animal Consumption. M. W. Dicks. University of Wyoming. 256.
World Review of Nutrition and Dietetics, Volume 6. G. H. Bourne, Editor. S. Karger. 96.
Your Heart has Nine Lives. A Blakeslee and J. Stamler. The Benjamin Company, Inc. 320.

Brain
centers for lipid mobilization, 283
cerebral thrombosis, incidence, 271
galactokinase in, 80
histology, in hypothalamic obesity, 93
lesions, after feeding irradiated foods, 174
pyridoxal phosphate in, after hydrazides, 81
sensitivity to insulin, 235
serine synthesis in, 155

Bread
consumption, of elderly women, 236

Butter
containing inter-esterified fats, nutritional evaluation of, 201
dietary, effect on production of liver cirrhosis, 189

Butyrate
metabolism, in ruminants, 157

Calcium
absorption, effect of iron on, 247
balance
effect of dietary magnesium on, 43
in infants given growth hormone, 134
blood levels, in infants, on vitamin D overdosage, 230
excretion, in nutritional rickets, 10
idiopathic hypercalcemia, aortic stenosis in, 311
in New Guinea mothers' milk, 105
intake, of elderly women, 236, N319
transport, induced by vitamin D, effect of actinomycin D on, 18

Caloric Intake
deficiency, hydroxyproline excretion as measure of, 324
in man, variability in, 39
in old age, 236, N319
intravenous, effect on nitrogen balance after surgery, SA193
relation to growth on casein diet, 285
restriction
serum lipid levels in, 292
versus fasting, for weight reduction, 6

Cancer
carcinogenic factors in foods and feeds, SA321
incidence, in rats on canned food diet, 46
Walker tumor in rats, food and water regulation in, 111

Carbohydrate
2-deoxyglucose, effect on plasma free fatty acid level, 283
dietary
relation to caries incidence, 297
relation to plasma lipid levels, 35
fructose, dietary, effect on alcohol utilization, 71
galactose
dietary
effect on liver galactokinase activity, 80
utilization in young and old rats, 80
glucose
blood levels
in hypothalamic obesity, 93
in infants given growth hormone, 134
in premature infants, 295
effect on food intake in hypothalamic hyperphagia, 187
effect on oxygen consumption of isolated epithelial cells, 343
injection of hypertonic solution, effect of food intake, 212
intravenous, effect on nitrogen balance after surgery, SA193
metabolic changes in experimental atherosclerosis, 214
metabolism
in obese rats, 252
in rats fed toxic levels of fluoride, 346
uptake by brain, effect of insulin on, 235
synthesis, hormonal control of, 308
glucose tolerance
in coronary-prone individuals, 260
in hypothalamic obesity, 252
in the aged, SA257
glycogen
in liver, in fluoride toxicity, 346
in liver on fasting and refeeding, 166
synthesis in muscle, in hypothalamic obesity, 252
hexosamine, metabolism, effect of vitamin A on, 204
in fish products, effect on amino acid analysis, 25
intake, of diabetics in U. S. and Japan, SA257
mucopolysaccharide, metabolism, role of vitamin A in, 204
present knowledge series, SA65
ribose, uptake by diaphragm muscle, in vitamin E deficiency, 203
starch, dietary, relation to plasma lipid levels, 35
sucrose
dietary
effect on serum triglycerides, SA65
relation to plasma lipid levels, 35
xylose
intravenous injection, effect on food intake, 212
Carbon Dioxide
production, by dispersed liver cells, 12
Carotene
absorption, effect of bile acids on, SA129
intestinal absorption of, 16
oxidation, by nitrite, 216
Cartilage
chondroitin sulfate in, in vitamin A deficiency, 204
Casein
biological value of, 49
synthesis, by mammary gland, *in vitro*, 51
Cattle
basal metabolic rate in, 315
fern poisoning in, effect of batyl alcohol on, 19
Cells
fat, isolated, RNA and oleic acid synthesis in, 280
liver, dispersed, preparation and metabolism, 12
microbial, sensitivity to filipin, 281
Chick
amino acid requirements for, 170
bone, in tissue culture, effect of vitamin A on, 204
plasma free amino acids in, measure of dietary amino acid intake, 170
reproduction
effect of linoleic acid on, 122
role of vitamin A, 250
Children
blood cholesterol levels in, 269
gastrectomy in, effect on nutrition, 8
growth, in congenital heart disease, 68
hydroxyproline excretion in, measure of protein-calorie deficiency, 324
idiopathic hypercalcemia in, association with aortic stenosis, 311
kwashiorkor
body water in, 75
growth after treatment, 75
obese, ketogenesis from fasting, 266
pre-school, rampant caries in, 297
variability of caloric intake in, 39
vitamin D intake for, safe levels, 230
Chloride
blood levels, in cholera, 262
Cholera
water and electrolyte changes in, 262
Cholesterol
absorption, effect of pectin on, 209
accumulation in tissue culture cells, 77
adrenal content, in single versus community housed rats, 116
blood levels
after feeding oxidized fats, 109
after gastrectomy, 210
dietary regulation of, effect on incidence of coronary heart disease, 228
during ethylchlorophenoxyisobutyrate therapy, 299
during weight loss, 292
effect of exercise on, N95
effect of pectin feeding on, 209
in alcoholism, 71
in coronary-prone individuals, 260
in cystine deficiency, 164
in Czechoslovakia and Mongolia, 269
in germfree rats, 278
on diets containing inter-esterified fats, 201
relation to cerebral thrombosis, 271
relation to dietary carbohydrate, 35
relation to dietary fat, SA33
catabolism, in germfree rats, 278
dietary, regulation of cholesterol synthesis by, 218
esterification, effect of bile acids on, 57
esters, fatty acids in, effect of diet on, 14
in growth medium of fungi, effect on filipin sensitivity, 281
liver
effect of pectin feeding on, 209
in germfree rats, 278
mobilization by plasma proteins, 87

synthesis
in vitamin A deficiency, SA129
in dispersed liver cells, 12
regulation by dietary cholesterol, 218
Cholestyramine
effect on post-heparin lipolytic activity, 196
Cholic Acid
activation of cholesterol esterase, mechanism of, 57
Choline
deficiency
effect on liver and plasma lipids, 220
hemochromatosis from iron feeding in, 274
kidney necrosis in, effect of dietary fatty acids on, N255
liver cirrhosis, effect of dietary fatty acids on, 189
requirement, effect of environmental temperature on, 335
Chondroitin Sulfate
metabolism, in vitamin A deficiency, 204
Chromatography
gas-liquid, developments in, 53
Chylomicron
vitamin A transport in, 16
Cirrhosis
liver, relation to type of fatty acids fed, 189
Citrate
cleavage enzyme, role in lipogenesis, 153
effect on lipid synthesis in dispersed liver cells, 12
oxidation, in tissues, in experimental atherosclerosis, 214
Coconut
oil
containing inter-esterified fats, nutritional evaluation of, 201
dietary
effect on blood lipids in lipemia, 103
effect on egg production in hens, 122
effect on kidney necrosis of choline deficiency, N255
effect on production of liver cirrhosis, 189
Coenzymes
coenzyme A
levels in pantothenate deficient guinea pigs, 169
role in fatty acid metabolism, SA33
folate, different forms, SA289
NADH/NAD ratio, after alcohol plus fructose ingestion, 71
pyridoxal phosphate, tissue levels after hydrazides, 81
Cold
adaptation, changes in brown fat during, 244
effect on food intake, in choline deficiency, 335
Collagen
liver, relation to dietary fatty acids, 189
synthesis, in scurvy, 179
Convulsions
in singly housed mice, 116
Corn
contamination with carcinogens, SA321
oil
dietary
effect on egg production in hens, 122
effect on production of liver cirrhosis, 189
fatty acid isomers in, SA1
Corticosterone (*see* **Hormones**)
Cortisone (*see* **Hormones**)
Cottonseed
oil
containing inter-esterified fats, nutritional evaluation of, 201
polyunsaturated fatty acids in, N222
Cycasin
carcinogenic activity of, SA321
Cystathioninuria
treatment with pyridoxine, 37
Cytochrome
in brown fat, 244
Czechoslovakia
blood cholesterol levels in, 269

Dehydration
in cholera, 262
tissues, relation to food intake regulation, 212
Denaturation
tryptophan pyrrolase, effect of tryptophan on, 183
Dermatitis
in singly housed rats, 116
Diabetes
activity of citrate cleavage enzyme in, 153
effect on levels of enzymes of gluconeogenesis, 346
familial incidence in, in coronary-prone individuals, 260
role of nutrition in, present knowledge series, SA257
Diet
canned food, growth and development on, 46
carbohydrate
in world nutrition, SA65
relation to plasma lipid levels, 35
fat
relation to blood cholesterol levels, 269
relation to fatty acids in cholesterol esters, 14
requirements in, SA33
fatty acid composition, relation to production of liver cirrhosis, 189
for the diabetic, SA257
infants', government protection of, 195
ketogenic, for weight reduction, 133
leaf proteins, 24
nitrogen, relation to growth rate, 285
premature infants', 295
protein
effect on susceptibility to *trichinella* infection, N287
relation to liver damage in alcoholism, SA97
reducing
restriction of carbohydrate in, SA65
use of fasting in conjunction with, 6
regulation, effect on incidence of coronary heart disease, 228
relation to caries incidence, 297
relation to galactokinase activity of tissues, 80
restriction patterns, effect on body fat, 83
survey, of elderly women, 236
Uganda, relation to heart disease incidence, 136
variability in caloric intake, 39
vegetable oil, effect on vitamin E status, 41
Dietetics
teaching, in medical schools, N350
Differentiation
mammary gland, effect of hormones on, 51
Disease
acute alcoholic hepatitis, SA97
cholera, water and electrolyte changes in, 262
cystathioninuria, treatment with pyridoxine, 37

endomyocardial fibrosis, in Uganda, 136
hemochromatosis, from iron feeding in folic acid deficiency, 274
homocystinuria, clinical and pathologic, 9
idiopathic hypercalcemia, aortic stenosis in, 311
liver cirrhosis, post-heparin lipolytic activity in, 196
Marfan's syndrome, association with homocystinuria, 9
sprue, megaloblastic anemia in, role of folacin in, SA289
turkey X disease, from dietary carcinogens, SA321

Dog
experimental gastrointestinal lesions in, from enteric potassium tablets, 141

Drugs (*see also* **Antibiotics, Antimetabolites**)
ethylchlorophenoxyisobutyrate, weight gain during therapy, 299
hydrazides, effect on tissue pyridoxal phosphate levels, 81
iproniazid, effect on tissue pyridoxal phosphate levels, 81

Edema
in kwashiorkor, 75

Egg
phosphatides, emulsifiers for intravenous fat feeding, SA225
production
relation to dietary linoleate, 122
relation to vitamin A, 250

Electrocardiogram
changes
association with cerebral thrombosis, 271
in alcoholism, 71

Electrolyte
blood levels, during fasting versus ketogenic diet, 133
changes, in cholera, 262

Electron Microscopy
aorta epithelium, in scorbutic guinea pigs, 179
kidney, in magnesium deficiency, 43
liver, after alcohol ingestion, 21, SA97
liver mitochondria, in fatty acid and fat soluble vitamin deficiency, 272
tissues, after intravenous fat feeding, SA225

Embolism
frequency in homocystinuria, 9

Emulsifiers
for intravenous fat feeding, SA225

Energy
expenditure, individual variations in, 39
sparing, by chlortetracycline administration, 60

Enzymes
adenosine triphosphatase, in arteries in experimental hypertension, N159
alkaline phosphatase, in arteries in experimental hypertension, N159
aryl-sulfatase, in vitamin A deficiency, 204
ATP-sulfurylase, in liver, in vitamin A deficiency, 204
cholesterol esterase, effect of bile acids on, 57
citrate cleavage, role in lipogenesis, 153
cystathionase, in liver, in cystathioninuria, 37
cystathionine synthetase, absence in homocystinuria, 37
formimino transferase, defect in vitamin B_{12} deficiency, SA289
fructose 1, 6 diphosphatase, hormonal control of, 308
fumarase, in diabetic rats, 346
galactokinase, characteristics in young and old rats, 80
glucokinase, changes on fasting and refeeding, 166
glucose-6-phosphatase, hormonal control of, 308
glucose-6-phosphate dehydrogenase, changes on fasting and refeeding, 166
glutamic-oxaloacetic transaminase
in diabetic rats, 346
in experimental muscle dystrophy, 337
glutaminase, inhibition by glutamate, 340
glycerolkinase, in brown fat, 244
hyaluronidase, use for isolation of intestinal epithelial cells, 343
isocitrate dehydrogenase, changes on fasting and refeeding, 166
lactate dehydrogenase
changes in isozymes in experimental muscle dystrophy, 337
isozymes, distribution in tissues, 143
lipoprotein lipase, in liver disease, 196
loss, dispersion of liver cells, 12
malate dehydrogenase, in diabetic rats, 346
malic, role in lipogenesis, 153
oxidative, in brown fat, 244
pepsin
in gastric juice, after hypothalamic lesions, 29
secretion after vagotomy, 328
phosphoenolpyruvate carboxykinase, role in gluconeogenesis, 346
post-heparin lipolytic activity, in coronary-prone individuals, 260
proteolytic
destruction of cholesterol esterase by, 57
in tissue extracts, of vitamin A deficient and hypervitaminotic rats, 240
pyridoxal phosphokinase, in nerve tissue, 81
pyruvate carboxylase, role in gluconeogenesis, 346
release from lysosomes, effect of vitamin A on, 240
retinyl palmitate synthetase, 16
serine phosphatase, role in serine synthesis, 155
thiaminase, in ferns, 19
trypsin, inhibitor, in navy beans, 121
tryptophan pyrrolase, degradation in liver, 183
tyrosine-alpha-ketoglutarate transaminase, degradation in liver, 183

Epinephrine (*see* **Hormones**)

Epithelium
isolation of intestinal cells, 343

Erratum, 64

Erythrocyte
hemolysis tests, factors affecting, N191

Erythropoietin
synthesis, in protein starvation, 300

Eskimo
carbohydrate in diet of, SA65

Esterification
retinol, in intestinal mucosa, 16

Exercise
effect on alcohol metabolism, 239
effect on blood cholesterol levels, N95
muscle lipid as source of energy for, 317

Eye
lens, dislocation, in homocystinuria, 9

Fasting
changes in liver enzymes after refeeding, 166
effect on conversion of stearate to oleate, 176

effect on levels of enzymes of gluconeogenesis, 346
effect on premature infants, 295
effect on respiratory quotient in cattle, 315
effect on RNA and oleic acid synthesis in isolated fat cells, 280
ketogenic response in obese children, 266
use in body weight reduction, 6
versus ketogenic diet, for weight reduction, 133
Fat
absorption, mechanism of, SA33
balance, effect of Triton on, 338
blood levels
during ethylchlorophenoxyisobutyrate therapy, 299
during weight loss, 292
effect of dietary fat on, 103
effect of dietary sucrose on, SA65
effect of Triton on, 338
effect of vitamin A on, 250
in alcoholism, 71
in choline synthesis, 220
in coronary-prone individuals, 260
relation to dietary carbohydrate, 35
body
changes on fasting versus ketogenic diet, 133
effect of food restriction patterns on, 83
in weanling rats with hypothalamic lesions, 151
brown, role in hibernating animals, 244
dietary
effect on blood lipids, 103
relation to blood cholesterol levels, 269
relation to production of liver cirrhosis, 189
relation to vitamin A absorption, SA129
emulsions
intravenous
effect on nitrogen balance after surgery, SA193
present knowledge series, SA225
excretion, effect of Triton on, 338
fatty acid isomers in, SA1
fatty livers, in alcoholism, SA97
hyperlipemia, effect of dietary fat on, 103
in fish products, effect on amino acid analysis, 25
in New Guinea mothers' milk, 105
infiltration in heart muscle, in extreme obesity, 199
intake
effect on post-heparin lipolytic activity, 196
in old age, N319
inter-esterified, nutritional value of, 201
lipid-protein complexes, stability of, 147
liver
after alcohol ingestion, 21, 71
after orotic acid feeding, 27
in choline deficiency at different environmental temperatures, 335
in pantothenate deficient guinea pigs, 169
mobilization by plasma proteins, 87
on fasting and refeeding, 166
mobilization, nervous system centers for, 283
muscle, as energy source for contraction, 317
oxidized, nutritional value of, 109
present knowledge series, SA33
serum lipids, requirements for heart cells in tissue culture, 180
sparing, by alcohol utilization, 239
synthesis
in dispersed liver cells, 12
role of citrate cleavage enzyme in, 153
triglycerides, for intravenous fat feeding, SA225
Fatty Acids
arachidonate
in tissue culture cells, 77
in metabolism in the rat, 119
dietary
effect on kidney necrosis of choline deficiency, N255
relation to production of liver cirrhosis, 189
essential, deficiency, effect on liver mitochondria, 272
effect on heart cells in tissue culture, 180
free
effect of adrenalectomy and hypophysectomy on, 283
in fasting obese children, 266
in infants given growth hormone, 134
in premature infants, 295
release from adipose tissue, effect of hormones on, 69
in cholesterol esters, effect of diet on, 14
isomers, unsaturated, occurrence and metabolism, SA1
lauric acid, protective effect on kidney necrosis of choline deficiency, N255
linoleic acid
dietary, effect on reproduction in the hen, 122
metabolism in the rat, 119
metabolism, in liver of ruminants, 157
oleic acid
effect of fasting on formation from stearic acid, 176
synthesis in isolated fat cells, 280
oxidized unsaturated, formation of complexes with protein, 147
palmitic acid, effect of fasting on conversion to oleic acid, 176
polyunsaturated
dietary
effect on vitamin E status, 41
relation to vitamin E needs, N222
saturated, in brown fat, 244
stearic acid, effect of fasting on conversion to oleic acid, 176
synthesis
in dispersed liver cells, 12
role of citrate cleavage enzyme in, 153
unsaturated, dietary, relation to blood cholesterol, SA33
Feces
electrolyte losses in, in cholera, 262
Feeding
early versus delayed, of the premature infant, 295
Feeds
copper in, toxicity, regional differences in, 305
sorghum grain, amino acid composition of, N223
source of carcinogenic factors, SA321
Fern
poisoning, effect of batyl alcohol on, 19
Ferritin
role in iron absorption, 247
Fibrinolysis
activity in aorta epithelium, in scorbutic guinea pigs, 179
Fibrosis
heart, in extreme obesity, 199
Fish
determination of amino acids in, effect of high carbohydrate levels on, 25
hepatoma in, from dietary carcinogens, SA321
oil, fatty acid isomers in, SA1

Flour
ground nut-soy, for protein malnutrition, N30
sesame, for infant feeding in Middle East, N63
Fluoride (*see* **Trace Elements**)
Folacin
deficiency, hemochromatosis from iron feeding in, 274
present knowledge series, SA289
Food
anserine in, source of urinary methylhistidine, N63
canned, nutritional value of, 46
industries, role in the Nutrition Foundation, SA353
infant
government regulation of, 195
sesame and soy flour as, N63
intake
effect of choline deficiency on, 220
effect of dietary leucine and protein on, 91
in cold environment, 335
in hyperphagic rats, effect of glucose on, 187
in rats fed toxic levels of fluoride, 346
in rats with Walker tumors, 111
in weanling rats with hypothalamic lesions, 151
of elderly women, 236
regulation by osmotic effect, 212
regulation in obesity, 303
irradiation, toxicity of, 174
processing, of nuts and soy, for protein malnutrition, N30
restriction patterns, effect on body fat, 83
source of carcinogenic factors, SA321
value
amino acids in sorghum hybrids, N223
of inter-esterified fats, 201
Fructose (*see* **Carbohydrate**)

Gas-liquid Chromatography
developments in, 53
Genetics
cystathioninuria, treatment with pyridoxine, 37
homocystinuria, 9
idiopathic hypercalcemia, 311
relation to radiation sensitivity, 313
role in determining isozyme patterns, 143
Germfree
mice, radiation sensitivity in, 313
rat
cholesterol catabolism in, 278
vitamin K deficient, effect of vitamin A feeding on, 125
Globulin
beta-, plasma levels, after alcohol ingestion, 21
effect on lipid release from tissue culture cells, 77
gamma-, effect on albumin synthesis, 86
Gluconeogenesis
hormonal control of, 308
regulation of, 346
Glucose (*see* **Carbohydrate**)
Glutamine
source of urinary ammonia, 340
Gluten
biological value of, 49
Glycerate
phosphate, role in serine synthesis, 155
Glycerol
plasma levels, in fasted obese children, 266
Glycogen (*see* **Carbohydrate**)
Government
regulation, of foods for infants, 195

Great Britain
diets of elderly women in, 236
vitamin D fortification of foods in, 230
Growth
children
after gastrectomy, 8
after kwashiorkor, 267
effects of supplementary feeding on, in New Guinea, 105
failure, in congenital heart disease, 68
infants
effect of growth hormone on, 134
effect of vitamin D overdosage on, 230
in iron deficiency anemia, 330
inhibition, from factors in navy beans, 121
mice, after irradiation and homologous bone marrow, 185
microbial, sensitivity of filipin, 281
rats
fed toxic levels of fluoride, 346
on amino acid mixtures, 285
on canned food diet, 46
response, hydroxyproline excretion as measure of, 324
swine, effect of copper on, 305
weanling rats with hypothalamic lesions, 151
Guinea Pig
pantothenate deficiency, effect on pregnancy, 169
scorbutic, aorta epithelium changes in, 179

Hair
color, in homocystinuria, 9
Hatchability
eggs, relation to dietary linoleate, 122
Heart
aortic stenosis, from excess vitamin D, 311
cells, tissue culture, effect of lipids on, 180
congenital disease, growth failure in, 68
coronary disease
characteristics of individuals prone to, 260
effect of dietary regulation on incidence of, 228
disease
in alcoholism, 71
in diabetics, SA257
in Uganda, 136
enzyme changes in, in experimental hypertension, N159
failure, in obesity, 199
iron deposition in, after feeding iron in folic acid deficiency, 274
lesions
after feeding irradiated foods, 174
in pigeons, effect of irradiation on, 178
linoleic acid in, relation to diet, 122
oxygen consumption of, in experimental atherosclerosis, 214
weight, in extreme obesity, 199
Heat
production
by brown fat, 244
in cattle, 315
Height
body, in coronary-prone individuals, 260
Hemagglutinin
in navy beans
Hemochromatosis
from iron feeding in folic acid deficiency, 274
Hemoglobin
levels
in copper poisoning, 305
in single versus community housed rats, 116

responses, to different forms of iron therapy, 232
Hemorrhage
adrenal, in pantothenate deficient guinea pigs, 169
from intravenous fat feeding, SA225
in vitamin K deficiency, effect of dietary vitamin A on, 125
Heparin
post-heparin lipolytic activity, in liver disease, 196
Heredity
familial incidence of coronary heart disease, in coronary-prone individuals, 260
Hexosamine
metabolism, effect of vitamin A on, 204
Hibernation
role of brown fat in, 244
Histamine
gastric response to, after vagotomy, 328
Histology
aorta, in scorbutic guinea pigs, 179
changes in tissues, after feeding oxidized fats, 109
liver, in alcoholism, SA97
organs, after feeding irradiated foods 174
tissues, in hyperthalamic obesity, 93
Homocystinuria
clinical and pathologic aspects, 9
Hormones
ACTH, effect on release of FFA from adipose tissue, 69
corticosterone, blood levels in single versus community housed rats, 116
cortisol
effect on differentiation of mammary gland *in vitro*, 51
effect on enzymes of gluconeogenesis, 346
cortisone, administration, effect on enzyme loss during dispersion of liver cells, 12
epinephrine
effect on lipid synthesis by dispersed liver cells, 12
effect on release of FFA from adipose tissue, 69
response of premature infants on delayed feeding, 295
glucagon
effect on release of FFA from adipose tissue, 69
response of premature infants on delayed feeding, 295
glucocorticoid, effect on liver enzymes, 308
growth
content of pituitary in vitamin B_6 deficiency, 276
effect on infants, 134
insufficiency in weanling rats with hypothalamic lesions, 151
hydrocortisone, effect on synthesis of tryptophan pyrrolase, 183
insulin
effect on differentiation of mammary gland *in vitro*, 51
effect on lipid synthesis by dispersed liver cells, 12
effect on liver enzymes, 308
gastric response to, after vagotomy, 328
hyperphagia from, food intake regulation in, 303
relation to level of citrate cleavage enzyme, 153
sensitivity in obese rats, 252
sensitivity of brain to, 235
prolactin, effect on differentiation of mammary gland *in vitro*, 51
thyroid stimulating, effect on release of FFA from adipose tissue, 69
Hydrochloric Acid
secretion, after vagotomy, 328
Hydrogenation
fatty acid isomers, in tissues, SA1
Hydrolysis
cholesterol esters, effect of bile acids on, 57
urea, in the intestinal tract, effect of chlortetracycline on, 60
Hydroxymethylglutarate
synthesis, effect of dietary cholesterol on, 218
Hydroxyproline Creatinine Ratio, 324
Hyperlipemia
effect of dietary fat on, 103
Hyperphagia
effect of dietary leucine and protein on, 91
from insulin administration, food intake regulation in, 303
hypothalamic, effect of glucose on food intake in, 187
Hypertension
experimental, enzymatic changes in arteries, N159
in extreme obesity, 199
relation to cerebral thrombosis, 271
Hypoglycemia
effect on gastric secretions, 29
from delayed feeding of premature infants, 295
Hypothalamus
control of food intake, in rats with Walker tumors, 111
hyperphagia
effect of glucose on food intake in, 187
food intake regulation in, 303
metabolic changes in, 252
lesions
effect on gastric secretions, 29
in weanling rats, obesity and growth in, 151
regulation of food intake by, 91

Industry
role in nutrition education, SA161
role in protection of infant foods, 195
Infants
animal, role of brown fat in, 244
effect of growth hormone on, 134
feeding, in Middle East, N63
food products for, government regulation of, 195
idiopathic hypercalcemia in, association with aortic stenosis, 311
iron deficiency anemia in, growth of, 330
kwashiorkor, body water in, 75
New Guinea, supplementary feeding trial, 105
newborn, blood cholesterol levels in, 269
premature, early feeding of, 295
urine acidification in, in nutritional rickets, 10
vitamin D intake for, safe levels, 230
Infection
trichinella, effect of dietary protein on, N287
Insulin (*see* **Hormones**)
Intestine
absorption
amino acids, factors affecting, 332
bile acids, effect of pectin on, 209
cholesterol, effect of pectin on, 209
fat, effect of Triton on, 338

folates, SA289
iron salts, 232, 247
bacteria
oxidation of cholesterol by, 278
relation to radiation sensitivity, 313
calcium transport in, effect of actinomycin D on, 18
galactokinase in, 80
hemorrhage, in pantothenate deficient guinea pigs, 169
isolation of epithelial cells, 343
lesions
after feeding irradiated foods, 174
from enteric potassium tablets, 138
mucosa
effect of chlortetracycline feeding on, 60
vitamin A metabolism in, 16
vitamin A absorption, mechanism, SA129
Intrinsic Factor
antibody production for, in iron deficiency anemia, 326
secretion after vagotomy, 328
Inulin Space
in diaphragm muscle, in vitamin E deficiency, 203
Iron
absorption, mechanism of, 247
compounds, effectiveness for therapy, 232
deficiency
effect of folate utilization, SA289
gastric function and structure in, 326
growth of infants, 330
leucocyte oxygen consumption in, N160
deposition, in pancreas and heart, in folic acid deficiency, 274
effect on calcium absorption, 247
effect on copper toxicity, 305
feeding, production of hemochromatosis in folic acid deficiency by, 274
intake, in old age, 236, N319
Irradiation
effect on atherosclerosis in pigeons, 178
food, toxicity of, 174
mice, effect of homologous bone marrow on nitrogen balance, 185
sensitivity, factors affecting, 313
Israel
infant feeding in, sesame and soy flour for, N63
Isozymes (*see* **Enzymes**)

Japan
diabetes in, SA257

Ketogenesis
from fasting, in obese children, 266
α-Ketoglutarate
brain levels, after thiosemicarbazide, 81
oxidation, in tissues, in experimental atherosclerosis, 214
Ketonuria
during fasting versus ketogenic diet, 133
from delayed feeding of premature infants, 295
Kidney
acidification of urine, in nutritional rickets, 10
changes, in cholera, 262
control of acidosis by, 340
galactokinase in, 80
gluconeogenesis in, 346
histological changes after feeding oxidized fats, 109
homogenates, proteases in, from vitamin A deficient and hypervitaminotic rats, 240
lesions, after feeding irradiated foods, 174
necrosis, in choline deficiency, effect of dietary fatty acids on, N255
oxygen consumption of, in experimental atherosclerosis, 214
pyridoxal phosphate in, after hydrazides, 81
stone, formation, relation to dietary magnesium, 43
Kwashiorkor
body water in, 75
excretion of hydroxyproline in, 324
subsequent growth after treatment, 267

Lactalbumin
biological value of, 49
Lactation
in New Guinea mothers, 105
Lard
dietary, effect on production of liver cirrhosis, 189
Latin America
nutrition society in, N64
Leaf
proteins, nutritive value of, 24
Letters to the Editor
Bailey, K. V., 31
Cowan, J. W., 63
Fleshler, B., 63
Foy, H., 31
French, F. A., 191
Goldsmith, D., 350
Gormican, A., 350
Henn, M. J., 350
Paustian, F. F., 350
Tannous, R. I., 63
Wilder, V., 350
Leucocytes
changes, in fern poisoning, in cattle, 19
oxygen consumption, in iron deficiency anemia, N160
Lipemia
post-heparin lipolytic activity, in liver disease, 196
Lipids (*see* **Fat, Fatty Acid, Phospholipid,** *etc.*)
Lipoprotein
blood, in coronary-prone individuals, 260
cholesterol esters in, relation of diet to fatty acids in, 14
formation, from liver proteins, 87
lipoprotein lipase, in liver disease, 196
synthesis, inhibition by orotic acid, 27
Liver
active retinoic acid metabolite in, 113
amino acids in, effect of starvation on, 308
aryl-sulfatase in, in vitamin A deficiency, 204
ATP-sulfurylase in, in vitamin A deficiency, 204
cells, preparation and metabolism, 12
changes, in folic acid and choline deficiency, 274
cholesterol
effect of pectin feeding on, 209
in germfree rats, 278
cholesterol esters, fatty acids in, relation to diet, 14
cholesterol synthesis in, regulation by dietary cholesterol, 218
cirrhosis, relation to type of fatty acid fed, 189
coenzyme A levels, in pantothenate deficient guinea pigs, 169
conversion of stearate to oleate in, effect of fasting on, 176
copper levels in, effect of zinc and iron on, 305
cystathionase in, in cystathioninuria, 37
damage, from aflatoxin, relation to protein intake, 146

disease
in alcoholism, 71
lipoprotein lipase in, 196
enzymes
for gluconeogenesis, in diabetic rats, 346
hormonal regulation of, 308
on fasting and refeeding, 166
fat
in choline deficiency, 220, 335
in pantothenate deficient guinea pigs, 169
on fasting and refeeding, 166
relation to dietary fatty acids, 189
function, after intravenous fat feeding, SA225
galactokinase, characteristics in young and old rats, 80
glycogen changes, on fasting and refeeding, 166
hepatoma, in trout, from dietary carcinogens, SA321
histological changes after feeding oxidized fats, 109
homogenates, proteases in, from vitamin A deficient and hypervitaminotic rats, 240
injury from alcohol, experimental, SA97
iron deposition in, from iron feeding in folic acid deficiency, 274
linoleic acid in, relation to diet, 122
lipids
after alcohol ingestion, 21
mobilization by plasma proteins, 87
lipoid pigment in, after intravenous fat feeding, SA225
lipoprotein lipase synthesis in, 196
lipoprotein synthesis in, effect of orotic acid on, 27
mitochondria, effect of fatty acid and fat soluble vitamin deficiency on, 272
oxygen consumption of, in experimental atherosclerosis, 214
protein synthesis in, after alcohol ingestion, 21
pyridoxal phosphate in, after hydrazides, 81
pyridoxine content, in vitamin B_6 deficiency, 276
role in metabolism of volatile fatty acids in ruminants, 157
storage
of vitamin A, 16
effect of nitrite feeding on, 216
tryptophan pyrrolase, degradation of, 183

Luteoskyrin
carcinogenic activity of, SA321

Lymphatic System
vitamin A transport in, 16

Lysosomes
release of enzymes from, in vitamin A deficiency, 204
stability, effect of vitamin A on, 240

Magnesium
dietary, relation to kidney stone formation, 43
in New Guinea mothers' milk, 105

Malate
malic enzyme, role in lipogenesis, 153

Malnutrition
children, growth after treatment, 267
hydroxyproline excretion in, 324
in New Guinea infants, effects of supplementary feeding on, 105
in Uganda, association with heart disease, 136
protein, diets for treatment of, N30

Mammary Gland
synthesis of casein phosphoproteins by, 51

Margarine
fatty acid isomers in, SA1

Maternal Nutrition
relation to caries incidence in offspring, 297

Meat
consumption, of elderly women, 236
protection from contamination, government regulation of, 195

Medical School
nutrition teaching in, N350

Membrane
microbial, sterols in, relation to filipin sensitivity, 281
mitochondrial, in vitamin D deficiency, 272

Mental
deficiency, in homocystinuria, 9, 37

Metabolic Rate (*see* **Basal Metabolic Rate**)

Methylhistidine
excretion, effect of anserine on, N63

Mevalonate
synthesis, effect of dietary cholesterol on, 218

Middle East
infant feeding in, sesame and soy flour for, N63

Milk
consumption, of elderly women, 236
human, quality in New Guinea, 105
protection from contamination, government regulation of, 195

Minerals
availability, in tablet form, 101
in New Guinea mothers' milk, 105

Mitochondria
changes in fatty acid and fat soluble vitamin deficiency, 272
enlargement, in alcoholism, SA97

Mongolia
blood cholesterol levels in, 269

Monkey
cystine deficiency in, cholesterol metabolism in, 164
experimental gastrointestinal lesions in, from enteric potassium tablets, 141
muscle lipid as energy source in, 317

Mouse
trichinella infection in, relation to dietary protein, N287

Mucopolysaccharide
metabolism, role of vitamin A in, SA129, 204

Muscle
contraction, lipids as energy source for, 317
diaphragm, uptake of amino acids by, effect of vitamin E deficiency on, 203
dystrophy, from vitamin E deficiency, serum enzyme changes in, 337
galactokinase in, 80
lactate dehydrogenase isozyme patterns in, 143
paralysis, from toxic factors in shellfish, N127
pyridoxal phosphate in, after hydrazides, 81
role in metabolism of volatile fatty acids in ruminants, 157
utilization of glucose, in hypothalamic obesity, 252
weakness, in homocystinuria, 9

Necrosis
kidney, in choline deficiency, effect of dietary fatty acids on, N255

Nerve
central nervous system, centers for lipid mobilization, 283
tissue, pyridoxal phosphokinase in, 81

New Guinea
quality of mothers' milk in, 105
supplementary feeding trial in, 105

Nitrite
feeding, effect on liver storage of vitamin A, 216
Nitrogen
balance
after homologous bone marrow transfusion, 185
after surgery, effect of intravenous feeding on, SA193
during fasting versus ketogenic diet, 133
in infants given growth hormone, 134
on recovery from kwashiorkor, 75
source in diet, relation to growth rate, 285
Notes
Alteration in Amino Acids of Sorghum Hybrids Grown in Different Locations, 223
Arterial Enzymatic Activity on a High Salt Diet, 159
Dietary Protein and Resistance to *Trichinella Spiralis* Infection, 287
Experimental Paralytic Shellfish Poisoning, 128
Latin American Nutrition Society Inaugural Meeting, 64
Leucocyte Oxygen Consumption in Iron Deficiency Anemia, 160
On Meeting Certain Recommended Dietary Allowances in the Elderly and the Indolent, 319
Physical Activity and Serum Cholesterol Concentration, 95
Prevention of Renal Necrosis in Rats Fed Diets Lacking Choline, 255
Nucleic Acids
RNA
synthesis in isolated fat cells, 280
synthesis in liver in starvation, 308
Nucleus
volume, in pancreas and adrenal cortex, in hypothalamic obesity, 93
Nutrition
and diabetes, present knowledge series, SA257
education
in medical schools, SA161, N350
role of the Nutrition Foundation, SA353
intravenous fat emulsions, present knowledge series, SA225
maternal, relation to caries incidence in offspring, 297
relation to radiation sensitivity, 313
Society, in Latin America, N64
survey
of caloric intake in man, 39
of canned foods, 46
of elderly women in Great Britain, 236
of quality of mothers' milk in New Guinea, 105
Nutrition Foundation
first 25 years, SA353

Obesity
caloric restriction in, effect on serum lipid levels, 292
children, ketogenesis from fasting, 266
food intake regulation in, 303
heart failure in, 199
hypothalamic, effect on pancreas and adrenal cortex, 93
in rats, insulin sensitivity in, 252
in weanling rats with hypothalamic lesions, 151
relation to release of FFA from adipose tissue, 69
treatment by fasting, evaluation, 6
Olive Oil
fatty acid isomers in, SA1
Orotic Acid
inhibition of lipoprotein synthesis by, 27
Osmosis
osmotic effect on food regulation, 212
Ovary
weight, in single versus community housed rats, 116
Oxalate
excretion, effect of dietary magnesium on, 43
Oxaloacetate
conversion to phosphoenol pyruvate, 346
Oxidation
alcohol
effect of exercise on, 239
effect of fructose ingestion on, 71
arachidonate, in rat tissues, 119
carbohydrate, in experimental atherosclerosis, 214
cholesterol, by intestinal bacteria, 278
fats, effect on nutritional value, 109
fatty acids, review, SA33
in liver mitochondria, in fatty acid and fat soluble vitamin deficiency, 272
vitamin A, by nitrite, 216
Oxidative Phosphorylation
in dispersed liver cells, 12
in liver mitochondria, in fatty acid and fat soluble vitamin deficiency, 272
Oxygen
consumption
effect of alcohol ingestion on, 239
in congenital heart disease, 68
in iron deficiency anemia, N160
of isolated intestinal epithelial cells, 343
of tissues in experimental atherosclerosis, 214

Palm
oil, dietary, effect on production of liver cirrhosis, 189
Pancreas
beta cells, nuclear volume, in hypothalamic obesity, 93
iron deposition in, after feeding iron in folic acid deficiency, 274
lesions, after feeding irradiated foods, 174
pyridoxine content, in vitamin B_6 deficiency, 276
Pantothenic Acid
deficiency, in guinea pigs, effect on pregnancy, 169
Paralysis
muscle, from toxic factors in shellfish, N127
Pathology
aflatoxin poisoning, 146
copper toxicity, in swine, 305
fern poisoning, in cattle, 19
heart
in alcoholism, 71
in extreme obesity, 199
homocystinuria, 9
liver
after alcohol, SA97
after intravenous fat feeding, SA225
tissue
after feeding canned foods, 46
after feeding irradiated foods, 174
Peanut
oil, fatty acid isomers in, SA1
Pectin
effect on cholesterol absorption, 209

Peptides
hydroxyproline, excretion in protein-calorie malnutrition, 324
Permeability
membrane, in vitamin E deficiency, 203
Pesticides
contamination of food, government regulation of, 195
Phosphoenolpyruvate
formation, in gluconeogenesis, 346
Phospholipid
blood levels, in choline synthesis, 220
emulsifiers for intravenous fat feeding, SA225
in brown fat, 244
liver
in choline deficiency, 220
in mobilization by plasma proteins, 87
synthesis
from linoleate and arachidonate, 119
in choline deficiency, 220
in dispersed liver cells, 12
in macrophages, effect of cholesterol on, 77
Phosphorus
balance, effect of dietary magnesium on, 43
blood levels
in copper poisoned swine, 305
in infants
after growth hormone, 134
after vitamin D overdosage, 230
incorporation into phospholipids, in dispersed liver cells, 12
uptake, by mammary tissue *in vitro*, 51
Pigeon
experimental atherosclerosis in, effect of irradiation on, 178
Pituitary
function, role of vitamin B_6 in, 276
histology, in hypothalamic obesity, 93
relation to plasma free fatty acid level, 283
weight, in single versus community housed rats, 116
Potassium
balance, on recovery from kwashiorkor, 75
enteric tablets, gastrointestinal lesions from, 138
hypokalemia, in cholera, 262
losses in feces, in cholera, 262
Pregnancy
effect of pantothenate deficiency on, 169
Propionate
metabolism, in ruminants, 157
Protein
association with vitamin D in serum, 149
biological value, methods for estimating, 49
casein, rat growth on, 285
deficiency, hydroxyproline excretion as measure of, 324
degradation, tryptophan pyrrolase in liver, 183
dietary
effect on hyperphagia, 91
effect on susceptibility to *trichinella* infection, N287
relation to aflatoxin injury, 146
relation to liver damage in alcoholism, SA97
relation to vitamin A nutrition, SA129
effect on lipid release from tissue culture cells, 77
in New Guinea mothers' milk, 105
in sorghum grains, N223
intake
in old age, 236, N319
intravenous, effect on nitrogen balance after surgery, SA193
leaf, nutritive value of, 24
lipid-protein complexes, stability of, 147
malnutrition
diets for treatment of, N30
use of leaf proteins for, 24
metabolism, in riboflavin deficient baboons, N31
phosphoprotein, synthesis, by mammary gland *in vitro*, 51
plasma, mobilization of liver lipids by, 87
serum levels
after intravenous fat feeding, SA225
in infants given growth hormone, 134
sparing, by chlortetracycline, mechanism of, 60
starvation
body water in, 75
erythropoiesis in, 300
synthesis
in liver, after alcohol ingestion, 21
role in calcium transport, 18
turnover, in liver, 183
Protein Efficiency Ratio
effect of navy bean feeding on, 121
Prothrombin Time
in vitamin K deficiency, effect of vitamin A feeding on, 125
Pyridoxal (*see* **Vitamin B_6**)
Pyridoxamine (*see* **Vitamin B_6**)
Pyridoxine (*see* **Vitamin B_6**)
Pyruvate
brain levels, after thiosemicarbazide, 81
conversion to glucose, mechanism of, 346
oxidation, in tissues, in experimental atherosclerosis, 214
Public Health
incidence of diabetes in the U.S., SA257
incidence of heart disease in Uganda, 136
relation of diet regulation to incidence of coronary heart disease, 228
shellfish poisoning, N127
supplementary feeding trial in New Guinea, 105

Racial Differences
in blood cholesterol levels, 269
Radioactive
contamination of food, government regulation of, 195
Relative Growth Index
for expressing nutritive value of proteins, 49
Reproduction
in pantothenate deficient guinea pigs, 169
in the hen
effect of linoleic acid on, 122
relation to vitamin A, 250
Requirements
amino acids, in the chick, 170
caloric intake, individual variations in, 39
choline, effect of environmental temperature on, 335
folacin, for man, SA289
lipids, for heart cells in tissue culture, 180
pantothenate, for guinea pigs, 169
vitamin D, for infants, 230
vitamin E
effect of dietary polyunsaturates on, 41
for man, N222
vitamin K, effect of dietary vitamin A on, 125
Research
in nutrition, support by the Nutrition Foundation, SA353

Respiratory Quotient
effect of alcohol ingestion on, 239
in fasted cattle, 315
Reticulocyte
formation, in protein starvation, effect of erythropoietin on, 300
Retinoic Acid
active metabolite of, in rat liver, 113
Retinol (*see* **vitamin A**)
Riboflavin
availability, from vitamin tablets, 101
deficiency, bone marrow changes in, N31
in New Guinea mothers' milk, 105
Rice
contamination with carcinogens, SA321
Rickets
nutritional, urine acidification in, 10
Ruminants
metabolism of volatile fatty acids by, 157

Safflower
oil
dietary, effect on production of liver cirrhosis, 189
fatty acid isomers in, SA1
Satiety Center
role in food intake regulation, 303
Scurvy
aorta epithelium changes in, 179
Seed
oils, fatty acid isomers in, SA1
Sesame
flour, for infant feeding in Middle East, N63
Sex Differences
in blood cholesterol levels, 269
in radiation sensitivity, 313
in release of FFA from adipose tissue, 69
Sheep
experimental muscle dystrophy in, changes in lactate dehydrogenase and glutamic transaminase, 337
Shellfish
toxic factors in, N127
Skeleton
changes, in homocystinuria, 9
Skin
nitrogen, changes after homologous bone marrow transfusion, 185
Smoking
incidence, in coronary-prone individuals, 260
relation to cerebral thrombosis, 271
Sodium
balance
during fasting versus ketogenic diet, 133
on recovery from kwashiorkor, 75
losses in feces, in cholera, 262
Sorghum
grains, amino acid composition of, N223
Soybean
flour, for infant feeding in Middle East, N63
oil
fatty acid isomers in, SA1
polyunsaturated fatty acids in, N222
phosphatides, emulsifiers for intravenous fat feeding, SA225
protein, biological value of, 49
Special Articles
Aaes-Jørgensen, E., Unsaturated Fatty Acid Isomers in Nutrition, 1
Hamwi, G. J., Medical Education in Nutrition: An Exploration of the Role of Industry, 161
Hartroft, W. S., Experimental Alcoholic Hepatic Injury, 97
Hodges, R. E., Present Knowledge of Carbohydrates, 65
Hodges, R. E., Present Knowledge of Nutrition in Relation to Diabetes Mellitus, 257
Jones, R. J., Present Knowledge of Intravenous Fat Emulsions, 225
Levey, S., Reduction of Nitrogen Deficits in Surgical Patients Maintained by Intravenous Alimentation, 193
Mead, J. F., Present Knowledge of Fat, 33
Petering, H. G., Foods and Feeds as Sources of Carcinogenic Factors, 321
Porta, E. A., Experimental Alcoholic Hepatic Injury, 97
Read, M. S., Medical Education in Nutrition: An Exploration of the Role of Industry, 161
Roels, O. A., Present Knowledge of Vitamin A, 129
Sipple, H. L., The Nutrition Foundation's First Twenty-five Years: A Quarter Century of Nutrition Science Progress, 353
Vitale, J. J., Present Knowledge of Folacin, 289
Spinal Cord
transection, effect on plasma free fatty acid level, 283
Spleen
lipoid pigment in, after intravenous fat feeding, SA225
weight, in single versus community housed rats, 116
Sprue
megaloblastic anemia in, role of folacin in, SA289
Squalene
synthesis, in vitamin A deficiency, SA129
Starvation
effect on liver enzymes, 308, 346
RNA synthesis in liver in, 308
Steroids
determination, by gas-liquid chromatography, 53
Sterols
in microbial membranes, relation to filipin sensitivity, 281
Stomach
function and structure, in iron deficiency, 326
gastrectomy
blood cholesterol levels after, 210
in children, effect on nutrition, 8
hemorrhage, in pantothenate deficient guinea pigs, 169
lesions
after feeding irradiated foods, 174
from enteric potassium tablets, 138
secretions
after vagotomy, 328
effect of hypothalamic lesions on, 29
weight, in weanling rats with hypothalamic lesions, 151
Storage
vitamin A
in liver, 16
effect of nitrite feeding on, 216
mechanism, SA129
Strain Differences
in radiation sensitivity, 313
Stroke
incidence, 271

Succinate
oxidation, in tissues, in experimental atherosclerosis, 214
Sucrose (*see* **Carbohydrate**)
Sulfate
metabolism, effect of vitamin A on, 204
Surgery
gastrectomy
in children, effect on nutrition, 8
serum cholesterol levels after, 210
nitrogen balance after, use of intravenous feeding, SA193
use of intravenous fat emulsions, present knowledge series, SA225
Swine
experimental gastrointestinal lesions in, from enteric potassium tablets, 141
growth, effect of copper on, 305
Synthesis
albumin, effect of gammaglobulin on, 86
casein phosphoproteins, by mammary gland *in vitro*, 51
cholesterol
effect of exogenous cholesterol on, 164
regulation by dietary cholesterol, 218
in germfree rats, 278
collagen, in scurvy, 179
erythropoietin, in protein starvation, 300
fat, role of citrate cleavage enzyme in, 153
fatty acid isomers, mechanism, SA1
fatty acids, review, SA33
gluconeogenic enzymes, adrenocortical hormones as inducers of, 308
glucose, hormonal control of, 308
glycogen, in muscle, in hypothalamic obesity, 252
lipid, in dispersed liver cells, 12
lipoprotein
in the liver, 87
inhibition by orotic acid, 27
lipoprotein lipase, in the liver, 196
liver enzymes, effect of hydrocortisone on, 183
mucopolysaccharide, role of vitamin A on, SA129
oleic acid, in isolated fat cells, 280
phospholipid
from linoleate and arachidonate, 119
in choline deficiency, 220
in macrophages, effect of cholesterol on, 77
protein
in liver, after alcohol ingestion, 21
role in calcium transport, 18
RNA, in isolated fat cells, 280
serine, in mouse brain, 155

Teaching
nutrition, role of the Nutrition Foundation in, SA353
Teeth
caries, in the pre-school child, 297
Temperature
environmental, relation to choline requirement, 335
regulation, after hibernation, by brown fat, 244
Testes
histology, in hypothalamic obesity, 93
Thiourea
uptake by diaphraghm muscle, in vitamin E deficiency, 203
Thrombosis
frequency in homocystinuria, 9
Thymus
weight, in single versus community housed rats, 116
Thyroid
histology, in hypothalamic obesity, 93
lesions, after feeding irradiated foods, 174
weight, in single versus community housed rats, 116
Tissue
lactate dehydrogenase isozyme distribution in, 143
Tissue Culture
chick bone, effect of vitamin A on, 204
cholesterol accumulation in cells, 77
rat heart cells, effect of lipids on, 180
Tissue Respiration
changes, in experimental atherosclerosis, 214
Toxicity
aflatoxin, relation to protein intake, 146
copper, in feeds, regional differences in, 305
fern, for cattle, effect of batyl alcohol on, 19
fluoride, 346
hydrazides, 81
intravenous fat emulsions, SA225
irradiated food, 174
navy beans, 121
nitrite, effect on liver storage of vitamin A, 216
oxidized fats, 109
shellfish factors, N127
vitamin D, for infants, 230
Trace Elements
copper, toxicity in feeds, regional differences in, 305
fluoride, effect of toxic levels on carbohydrate metabolism, 346
selenium, effect on serum enzymes in experimental muscle dystrophy, 337
zinc, effect on copper toxicity, 305
Transport
calcium, induced by vitamin D, effect of actinomycin on, 18
iron, in intestinal tract, 247
lipids, in choline deficiency, 220
vitamin A
in lymphatic system, 16
mechanism, SA129
vitamin D in serum, 149
Triton
effect on fat balance, 338
Trypsin Inhibitor
effect on bile acid activation of cholesterol esterase, 57
in navy beans, 121
Turkey X Disease, SA321

Ubiquinone
synthesis, in vitamin A deficiency, SA129
Uganda
endomyocardial fibrosis in, 136
Urea
blood levels
in cholera, 262
in infants given growth hormone, 134
hydrolysis, in the intestine, effect of chlortetracycline on, 60
Uric Acid
blood levels, in absence of dietary carbohydrate, SA65
Uronic Acids
determination, by gas-liquid chromatography, 53

Utilization
alcohol
effect of fructose ingestion on, 71
fat sparing action of, 239
folate, in iron deficiency, SA289
food, relation to food restriction patterns, 83
galactose, in young and old rats, 80
glucose, in hypothalamic obesity, 252
vitamins, from tablets, 101

Vagotomy
gastric secretions after, 328
Varietal Differences
in amino acids of sorghum grains, N223
Vegetable
oil, dietary, effect on vitamin E status, 41
protein, biological value of, 24
Vitamin A
deficiency
biochemical changes in, SA129
effect on liver mitochondria, 272
dietary, effect on germfree vitamin K deficient rats, 125
effect on blood lipids in the hen, 250
effect on lysosomes, 240
effect on sulfate and hexosamine metabolism, 204
oxidation, by nitrite, 216
present knowledge series, SA129
retinoic acid metabolite, in rat liver, 113
storage in liver, effect of nitrite feeding on, 216
transport, in lymphatic system, 16
Vitamin B_6
effect on hydrazide toxicity, 81
pyridoxine, in tissues, in vitamin B_6 deficiency, 276
role in pituitary function, 276
treatment of cystathioninuria, 37
Vitamin B_{12}
absorption, in iron deficiency anemia, 326
blood levels, in iron deficiency anemia, 326
deficiency, effect on folate metabolism, SA289
dietary, relation to production of hemochromatosis by iron feeding, 274
Vitamin D
calcium transport induced by, effect of actinomycin D on, 18
deficiency
effect on liver mitochondria, 272
urine acidification in, 10
excess, production of aortic stenosis by, 311
intake, of elderly women, 236
safe levels for infants, 230
transport in serum, 149
Vitamin E
deficiency
effect on uptake of amino acids by diaphragm muscle, 203
muscle dystrophy in, serum enzyme changes in, 337
plasma levels, N191
requirements
effect of dietary polyunsaturates on, 41
for man, N222
Vitamin K
deficiency, in germfree rats, effect of vitamin A feeding on, 125

Water
body
during ethylchlorophenoxyisobutyrate therapy, 299
in kwashiorkor, 75
content of diaphragm muscle, in vitamin E deficiency, 203
deficits, in cholera, 262
intake, in rats with Walker tumors, 111
intravenous injection, effect on food intake, 212
Weight
body
changes in kwashiorkor, 75
in infants, relation to anemia, 330
in single versus community housed rats, 116
loss, serum lipid levels in, 292
reduction
fasting versus ketogenic diet for, 133
use of fasting in, 6
gain, during ethylchlorophenoxyisobutyrate therapy, 299
regulation, role of satiety center on, 303
response, hydroxyproline excretion as measure of, 324

Zinc (*see* **Trace Elements**)